ADVANCING THE SOVEREIGN TRUST OF GOVERNMENT TO SAFEGUARD THE ENVIRONMENT FOR PRESENT AND FUTURE GENERATIONS (PART II): INSTILLING A FIDUCIARY OBLIGATION IN GOVERNANCE

BY

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This Article is the second part of a two-part work that highlights the fiduciary obligation of government emanating from the public trust doctrine of environmental law. This Part explores the measurable standards of performance for protecting vital natural assets in the people's trust as carried out within the modern framework of administrative law. Section II of this Article discusses the substantive and procedural duties of governmental trustees of natural assets. Section III presents the interface between public trust obligations and statutory law. Section IV discusses enforcement of the trust and the pivotal role of the judiciary. Section V evaluates implications of a trust approach for economic activity and private property rights. Section VI sets forth specific recommendations for incorporating a trust approach within U.S. environmental law and on the international level as well.

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I. INTRODUCTION

Even as the world faces unprecedented ecological crisis, government continues to permit destruction of the natural environment through environmental

law. The present model under which most agencies operate is one of political discretion to destroy public resources. With irrevocable climate thresholds looming and the survival of future generations at stake, society urgently needs a new paradigm for holding government at all levels accountable in protecting natural wealth. A companion Article, Part I of *Advancing the Sovereign Trust*, argued for a transformative shift in environmental management by drawing upon enduring sovereign trust principles embedded in United States Supreme Court jurisprudence. Presenting a second-generation iteration of the public trust doctrine, the Article formulated a "Nature's Trust" framework that could infuse government with the abiding obligation to protect and restore natural assets to benefit present and future generations of citizens. Under a Nature's Trust approach, the discretion in the statutes yields to a binding fiduciary obligation to protect the people's trust. As a wide lens through which to view regulatory action, the trust approach encompasses all public natural resources management.

This Article, Part II of *Advancing the Sovereign Trust*, brings definition to the Nature's Trust framework as it functions within the structure of modern environmental law. It casts the trust principle as an interstitial protective obligation that operates within the statutory context. It explores the dilemmas and challenges in urging or forcing government officials to remake their public identities from bureaucrat to trustee. Section II begins by discussing the substantive and procedural duties of governmental trustees, asserting that the fiduciary duties of the sovereign trust define obligations and loyalties of agency officials towards the public as the beneficiary class. Section III presents the interface between public trust obligations and statutory law, exploring tools such as moratoria for incorporating the trust approach into modern permit programs. Section IV discusses enforcement of the trust and the pivotal role of the judiciary, arguing that the judicial branch is equipped to enforce the people's trust, where necessary as a last resort, through common law remedies. Section V evaluates implications of a trust approach for economic activity and private property rights. It suggests that a public trust encumbrance on private title has never been extinguished and remains an antecedent servitude to preserve natural infrastructure. Finally, Section VI sets forth specific recommendations for incorporating a trust approach within the United States and on the international level as well.

II. THE TRUST DUTIES OF GOVERNMENT

While a sovereign trusteeship differs from a private one in significant ways, nevertheless, basic standards from the private realm apply with equal force.[1] Most importantly, a trust approach holds trustees to the "most exacting fiduciary standards."[2] This obligation has both substantive and procedural components.

[1] An analogy can be drawn to the federal Indian law trust doctrine, where courts have imported fiduciary standards to the sovereign context. *See* Mary Christina Wood, *Indian Land and the Promise of Native Sovereignty: The Trust Doctrine Revisited*, 1994 UTAH L. REV. 1471, 1489 (1994) (noting the federal government holds the trust title in Indian lands and acts as a fiduciary manager).

[2] Seminole Nation v. United States, 316 U.S. 286, 296–97 (1942); *see also* Jicarilla Apache Tribe v. Supron Energy Corp., 728 F.2d 1555, 1563 (10th Cir. 1984), *modified*, 793 F.2d 1171 (10th Cir. 1986) ("[Where] the Secretary is obligated to act as a fiduciary . . . his actions must not merely meet the

A. Substantive Duties

1. The Duty of Protection

Trust law imposes a fundamental duty on the trustee to protect the assets of the trust from damage.[3] As one leading treatise explains:

> The trustee has a duty to protect the trust property against damage or destruction. He is obligated to the beneficiary to do all acts necessary for the preservation of the trust res which would be performed by a reasonably prudent man employing his own like property for purposes similar to those of the trust.[4]

Scores of cases emphasize this duty of protection,[5] and many hold that the duty imposes an affirmative obligation on government.[6] Under well-established principles of private trust law, trustees may not sit idle and allow damage to occur

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minimal requirements of administrative law, but must also pass scrutiny under the more stringent standards demanded of a fiduciary.").

[3] United States v. White Mountain Apache Tribe, 537 U.S. 465, 475 (2003) (noting that fundamental common law duty of a trustee is to maintain trust property); Fort Mojave Indian Tribe v. United States, 23 Cl. Ct. 417, 426 (Cl. Ct. 1991) (finding federal trust duty to protect Indian water rights because "the title to plaintiffs' water rights constitutes the trust property, or the res, which the government, as trustee, has a duty to preserve"); State Dep't of Envtl. Prot. v. Jersey Cent. Power & Light Co., 336 A.2d 750, 758–59 (N.J. Super. Ct. App. Div. 1975) (finding both right and duty to recover damages for harm to natural resources held in public trust), *rev'd on other grounds*, 351 A.2d 337 (N.J. 1976); RESTATEMENT (SECOND) OF TRUSTS § 176 (1959) ("The trustee is under a duty to the beneficiary to use reasonable care and skill to preserve the trust property."); 76 AM. JUR. 2D *Trusts* § 404 (2005) ("A trustee has the right and the duty to safeguard, preserve, or protect the trust assets and the safety of the principal." (citations omitted)); GEORGE T. BOGERT, TRUSTS § 99 (6th ed. 1987) ("The trustee has a duty to take whatever steps are necessary . . . to protect and preserve the trust property from loss or damage." (citation omitted)).

[4] GEORGE GLEASON BOGERT & GEORGE TAYLOR BOGERT, THE LAW OF TRUSTS & TRUSTEES § 582, at 346 (rev. 2d ed. 1980).

[5] *See, e.g.*, *White Mountain Apache Tribe*, 537 U.S. at 475 (stating a fiduciary must not let trust "fall into ruin on his watch"); Geer v. Connecticut, 161 U.S. 519, 534 (1896) ("[I]t is the duty of the legislature to enact such laws as will best preserve the subject of the trust, and secure its beneficial use in the future to the people of the State."); *Fort Mojave Indian Tribe*, 23 Cl. Ct. at 426 (expressing a duty to preserve trust property); Nat'l Audubon Soc'y v. Superior Court of Alpine County, 658 P.2d 709, 724 (Cal. 1983) ("[The public trust] is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands . . . ."), *cert. denied sub nom.* L.A. Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983).

[6] *See* City of Milwaukee v. State, 214 N.W. 820, 830 (Wis. 1927) ("The trust reposed in the state is not a passive trust; it is governmental, active, and administrative . . . [and] requires the lawmaking body to act in all cases where action is necessary, not only to preserve the trust, but to promote it."); State v. City of Bowling Green, 313 N.E.2d 409, 411 (Ohio 1974) ("[W]here the state is deemed to be the trustee of property for the benefit of the public it has the obligation to bring suit . . . to protect the corpus of the trust property . . . ."). For discussion, see Deborah G. Musiker, Tom France & Lisa A. Hallenbeck, *The Public Trust and* Parens Patriae *Doctrines: Protecting Wildlife in Uncertain Political Times*, 16 PUB. LAND L. REV. 87, 96 (1995) ("The [government], as trustee, must prevent substantial impairment of the wildlife resource so as to preserve it for the beneficiaries—current and future generations."); Allan Kanner, *The Public Trust Doctrine,* Parens Patriae*, and the Attorney General as the Guardian of the State's Natural Resources*, 16 DUKE ENVTL. L. & POL'Y F. 57, 75–77 (2005); Gerald Torres, *Who Owns the Sky?*, 19 PACE ENVTL. L. REV. 515, 549 (2002) (noting government obligation to act to preserve the atmospheric trust).

to the trust.[7] As the Supreme Court said in *Geer v. Connecticut*: "[I]t is the duty of the legislature . . . to preserve the subject of the trust . . . ."[8]

The duty to protect trust assets is also a duty to prevent waste to those assets.[9] Trustees and cotenants alike have duties to protect the asset against waste.[10] A trustee that fails to protect the property against "waste" is liable to the beneficiaries.[11]

2. The Fiduciary Obligation

In the case of a financial res, a trustee's performance is measured according to investment or market norms.[12] When determining these norms, courts rely on the opinions of financial experts.[13] In the case of a natural res, the management norm must be tied to the health of the asset as defined by scientists with relevant expertise. The basic fiduciary duty is to maintain the asset's ability to provide a steady abundance of environmental services for future generations.[14] In the case of fisheries, this usually means maintaining harvestable populations.[15] In the case of forests, it means maintaining a sustainable yield of timber over time while preserving the full integrity of other forest functions.[16] For several decades,

7 *See* BOGERT, *supra* note 3, § 107, at 391 ("The trustee . . . is liable for damages if he should have known of danger to the trust, could have protected the trust, but did not do so."); 76 AM. JUR. 2D *Trusts*, *supra* note 3, § 606, at 636 (noting it is within the "power, and a duty of the trustee, to initiate actions . . . for the protection of the trust estate"). Courts have imported principles of protection from the private realm of trust law to govern public trustee duties in state lands management. *See* Idaho Forest Indus. v. Hayden Lake Watershed Improvement Dist., 733 P.2d 733, 738 (Idaho 1987) (noting the administration of public trust "is governed by the same principles applicable to the administration of trusts in general").

8 *Geer*, 161 U.S. at 534.

9 *See* BOGERT, *supra* note 3, § 99, at 358; 76 AM. JUR. 2D *Trusts*, *supra* note 3, §§ 331, 404.

10 *See* United States v. Washington, 520 F.2d 676, 685 (9th Cir. 1975) ("A cotenant is liable for waste if he destroys the property or abuses it so as to permanently impair its value."); 76 AM. JUR. 2D *Trusts*, *supra* note 3, §§ 331, 404.

11 76 AM. JUR. 2D *Trusts*, *supra* note 3, §§ 331, 404. For an example enforcing the waste prohibition against the federal government in the context of Indian law, see United States v. White Mountain Apache Tribe, 537 U.S. 465, 475 (2003).

12 *See* RESTATEMENT (THIRD) OF TRUSTS § 90 cmt. e (2007).

13 *See, e.g.*, *In re* Estate of Rowe, 712 N.Y.S.2d 662, 665–66 (N.Y. App. Div. 2000) (relying on an expert's testimony that "investment in IBM stock [was] particularly inappropriate" in upholding the lower court's ruling that trustees acted unwisely).

14 This duty is clearly recognized in the National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370e (2000). Specifically, the Act notes that "it is the continuing policy of the Federal Government . . . to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." *Id.* § 4331; *see also infra* note 64 and accompanying text.

15 *See* Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801(b)(4) (2006) (indicating Secretary must "provide for the preparation and implementation . . . of fishery management plans which will achieve and maintain, on a continuing basis, the optimum yield from each fishery").

16 National Forest Management Act of 1976, 16 U.S.C. § 1601(4)(d)(1) (2006) ("It is the policy of the Congress that all forested lands in the National Forest System shall be maintained . . . to secure the maximum benefits of multiple use sustained yield management in accordance with land management plans.").

scientists have set management goals to assure equilibrium in natural ecosystems.[17] These same goals can be invoked by courts as fiduciary obligations.

In the face of climate crisis, the most pressing matter is defining a fiduciary obligation for protecting the atmosphere, a trust asset that has never before been "managed." Only recently have scientists developed any sort of prescription that could be used as a structure to guide atmospheric recovery efforts. The Union of Concerned Scientists has published *A Target for U.S. Emissions Reductions* (*Target*) based on the extensive body of climate science developed so far.[18] The *Target* maps a climate stabilization pathway whereby the industrialized nations on Earth must collectively: 1) arrest the rising trajectory of carbon emissions by 2010, 2) reduce emissions an average of 4% per year starting in 2010, and 3) reduce carbon by an average of at least 70%–80% below 2000 levels by 2050.[19]

The scientifically established structure reflected in the *Target*, as adapted to comport with changed scientific understanding,[20] can be invoked as a generic standard of fiduciary obligation applicable to each industrialized nation. Such

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[17] *See, e.g.*, Jamison E. Colburn, *Habitat and Humanity: Public Lands Law in the Age of Ecology*, 39 ARIZ. ST. L.J. 145, 184–89 (2007) (discussing shift in land management from conservation to preservation).

[18] AMY L. LUERS ET AL., UNION OF CONCERNED SCIENTISTS, HOW TO AVOID DANGEROUS CLIMATE CHANGE: A TARGET FOR U.S. EMISSIONS REDUCTIONS 3 (2007), *available at* http://www.ucsusa.org/assets/documents/global_warming/emissions-target-report.pdf.

[19] *Id.* at 10, 14. The report groups the United States with other industrialized nations and then sets forth specific U.S. targets. The first part of the prescription, arresting emissions growth by 2010, is by far the most urgent and important, because the world is dangerously close to climate thresholds, or a "tipping point" that will cause runaway heating. For discussion, see DAVID SPRATT & PHILIP SUTTON, CLIMATE CODE RED: THE CASE FOR EMERGENCY ACTION 86–88 (2008) (citing scientists who believe we are rapidly approaching that threshold). The call for arresting U.S. emissions growth by 2010 is in line with a call by the United Nations to arrest the growth of world-wide emissions by 2015. *See* Cahal Milmo, "*Too Late to Avoid Global Warming," Say Scientists*, INDEPENDENT, Sept. 19, 2007, http://www.independent.co.uk/environment/climate-change/too-late-to-avoid-global-warming-say-scientists-402800.html (last visited Jan. 25, 2009). The world-wide date is set out five years beyond the U.S. date, because the developing nations like China and India are going to take more time to arrest emissions.

[20] The *Target* delineates a "reasonable emissions pathway" for the United States calibrated to the goal of not exceeding 450 parts per million (ppm) carbon equivalent in the atmosphere. LUERS ET AL., *supra* note 18, at 3, 8, 14. The assumptions underlying these target levels are already outdated by more recent data showing accelerated polar ice melting, indicating that a lower atmospheric level of carbon is likely necessary to achieve climate stability. For discussion, see SPRATT & SUTTON, *supra* note 19, at 26–28. Courts must necessarily adjust the fiduciary standard of care to emerging science. In 2007, NASA scientist James Hansen suggested that a goal below 350 ppm may be necessary to avoid dangerous climate feedbacks that would trigger runaway heating. James Hansen et al., *Climate Change and Trace Gases*, 365 PHIL. TRANSACTIONS ROYAL SOC'Y A: MATHEMATICAL, PHYSICAL & ENGINEERING SCI. 1925, 1949 (2007), *available at* http://www.planetwork.net/climate/Hansen2007.pdf; *see also* DAVID SPRATT & PHILLIP SUTTON, CLIMATE CODE RED: THE CASE FOR A SUSTAINABILITY EMERGENCY vi (2008), *available at* http://se1.isn.ch/serviceengine/FileContent?serviceID=47&fileid=92929DFC-57E2-175C-3A1B-7C4B3F0C58BF&lng=en (stating that climate stability may require reducing atmospheric carbon dioxide to 320 ppm); Philip Sutton, A Strategy Paper for the Australian Climate Summit 2009 6–7 (Jan. 21, 2009), *available at* http://www.green-innovations.asn.au/Climate-summit-strategy-paper.pdf (unpublished manuscript, on file with Environmental Law) (300 ppm necessary to restore arctic ice and prevent collapse of Greenland). Courts may incorporate new scientific understanding into litigation management through use of the judicial tools described *infra* note 122.

targets also can be "scaled down" to each subnational jurisdictional level[21] and applied to states and cities. In essence, the *Target* can crystallize the kind of organic obligation incumbent on all legislatures and agencies as trustees and trustee-agents of the atmosphere. By drawing upon the actual needs of the asset to formulate a fiduciary obligation, the trust approach stands in marked contrast to a discretionary political approach characteristic of today's climate negotiations.

3. The Duty of Restoration and Recouping Natural Resource Damages

Trustees have an affirmative duty to recoup monetary damages against third parties that destroy trust assets.[22] In the United States, common law provides a possible basis for recovery of natural resource damages (NRDs) under the public trust and the doctrine of *parens patriae*.[23] State, federal, or tribal governments are

[21] *See* Hari M. Osofsky, *The Geography of Climate Change Litigation Part II: Narratives of* Massachusetts v. EPA, 8 CHI. J. INT'L L. 573, 583 (2008) (noting the concept of "scaling up and down" in climate strategies); *c.f.* Peter H. Sand, *Sovereignty Bounded: Public Trusteeship for Common Pool Resources*, 4 GLOBAL ENVTL. POLITICS 47, 57 (2004) (discussing the "transfer of the public trust concept from the national to the global level").

[22] RESTATEMENT (SECOND) OF TRUSTS § 177 (1959); *see also* State Dep't of Envtl. Prot. v. Jersey Cent. Power & Light Co., 336 A.2d 750, 758–59 (N.J. Super. Ct. App. Div. 1975) (finding a duty to seek damages for harm to natural resources held in public trust), *rev'd on other grounds*, 351 A.2d 337 (N.J. 1976); State v. City of Bowling Green, 313 N.E.2d 409, 411 (Ohio 1974) (noting public trustees' "obligation . . . to recoup the public's loss occasioned by . . . damage [to] such property"); Wash. Dep't of Fisheries v. Gillette, 621 P.2d 764, 767 (Wash. Ct. App. 1980) (noting right and "fiduciary obligation of any trustee to seek damages for injury to the object of its trust"). *See* Mary Christina Wood, *The Tribal Property Right to Wildlife Capital (Part I): Applying Principles of Sovereignty to Protect Imperiled Wildlife Populations*, 37 IDAHO L. REV. 1, 58–59, 92–93 (2000) (discussing duty); Musiker et al., *supra* note 6, at 107–08 (discussing trust obligations as *parens patriae*); Susan Morath Horner, *Embryo, Not Fossil: Breathing Life into the Public Trust in Wildlife*, 35 LAND & WATER L. REV. 23, 27–28 (2000) (discussing rights and duties).

[23] The common law basis is only tangentially discussed in the case law and commentary. *See City of Bowling Green*, 313 N.E. 2d at 411; Md. Dep't of Nat. Res. v. Amerada Hess Corp., 350 F. Supp. 1060, 1067 (D. Md. 1972) (holding that the state had a right to maintain common-law action for pollution of waters based on the public trust doctrine in the absence of state legislation); State v. Dickinson Cheese Co., 200 N.W.2d 59, 61 (N.D. 1972); Charles B. Anderson, *Damage to Natural Resources and the Costs of Restoration*, 72 TUL. L. REV. 417, 426–30 (1997); Thomas A. Campbell, *The Public Trust, What's it Worth?*, 34 NAT. RESOURCES J. 73, 82–86 (1994); Judith Robinson, *The Role of Nonuse Values in Natural Resource Damages: Past, Present, and Future*, 75 TEX. L. REV. 189, 193–96 (1996); William H. Rodgers, Jr. et al., *The Exxon Valdez Reopener: Natural Resource Damage Settlements and Roads Not Taken*, 22 ALASKA L. REV. 135, 140 (2005). The interaction between statutory and common law grounds for natural resource damage recovery is not clear. Some common law claims may be preempted if they fall within a comprehensive program established by federal statutory law. *See* Carter H. Strickland, Jr., *The Scope of Authority of Natural Resource Trustees*, 20 COLUM. J. ENVTL. L. 301, pt. III (1995). On the other hand, at least one court has implied a dual basis for recovery. *See* Cal. Dep't of Fish & Game v. S.S. Bournemouth, 307 F. Supp. 922, 929 (C.D. Cal. 1969) (upholding the State of California's suit for damages caused by an oil spill and stating: "[T]he mere fact that Congress codifies a cause of action and provides a penalty creates no presumption of the nonexistence of similar rights at common law . . . but it is merely recognition of the significance a particular problem has in modern society."). Some pollution, like carbon pollution, harms entire systems of ecology, making it difficult to assess monetary damages. In these cases a court may consider using various economic surrogates to price damage. *See* Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 508 F.3d 508, 533 (9th Cir. 2007) (discussing, in another context, possible carbon pricing mechanism to assess natural ecological damage from global warming), *vacated and superseded*, 538 F.3d 1172 (9th Cir. 2008).

able to assert claims.[24] Natural resource damages must be applied to restoration of the trust.[25] Statutory law also provides a basis for recovering natural resource damages for common types of pollution.[26] The Comprehensive Environmental Response, Compensation, and Liability Act[27] and the Oil Pollution Act[28] contain extensive NRD provisions.[29] Large monetary sums have been awarded under these Acts for damage to coastlines and wildlife caused by oil spills, and damage to vast watersheds caused by mining.[30]

Under public trust theory, the sovereign must pursue damages in order to make the public—the beneficiaries—whole again and to restore the asset for future generations. Failure to seek damages is, by all private trust standards, an abdication of trust responsibility. Yet, much natural resource loss has accrued to the public's trust without any attempted recovery against the private parties. That may be changing. Suits have been brought by sovereigns against third parties for carbon pollution under a theory of public nuisance, which is similar in concept to natural resource damages.[31] At a time when government is short on money to restore natural resources and transform the infrastructure necessary to advance society to a carbon-free state, it is even more important to pursue natural resource damages claims.[32]

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[24] *See generally* Rodgers et al., *supra* note 23 (urging the State of Alaska, the United States, and Native entities to seek enforcement of the "Reopener Clause" of the *Exxon Valdez* settlement).

[25] Alaska Sport Fishing Ass'n v. Exxon, 34 F.3d 769, 772 (9th Cir. 1994) (noting trustees must use recovered sums to restore natural resources or acquire equivalent resources); Coeur d'Alene Tribe v. Asarco, Inc., 280 F. Supp. 2d 1094 (D. Idaho 2003) (liability to sovereign trustees for mining pollution); *see also* Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9607(f) (2000) (indicating damages must be applied to restore trust assets).

[26] *See* Mary Christina Wood, *The Tribal Property Right to Wildlife Capital (Part II): Asserting a Sovereign Servitude to Protect Habitat of Imperiled Species*, 25 VT. L. REV. 355, 443 (2001). Natural resource damages, however, are not available for pollution that was openly permitted under statutory authority.

[27] 42 U.S.C. §§ 9601–9675 (2000).

[28] Oil Pollution Act of 1990, 33 U.S.C. §§ 2701–2761 (2000).

[29] 42 U.S.C. § 9607 (2000); 33 U.S.C. § 2706 (2000); *see also* Federal Water Pollution Control Act, 33 U.S.C. § 1321(f)(4) (2000).

[30] *Alaska Sport Fishing Ass'n*, 34 F.3d at 772.

[31] *See, e.g.*, California v. Gen. Motors Corp., No. 06-05755, 2007 WL 2726871, at *2 (N.D. Cal. Sept. 17, 2007) (carbon nuisance claim); Connecticut v. Am. Elec. Power Co., 406 F. Supp. 2d 265, 272 (S.D.N.Y. 2005) (same). The nuisance claim, however, has not yet met with success. One factor distinguishing public nuisance claims from natural resource damage claims is the balancing test inherent in the former. In nuisance law, damage to a resource or to property does not automatically warrant monetary compensation. A court must engage in a balancing test to determine whether the social utility of the defendant's conduct justified the harm to the property. *See* JOSEPH WILLIAM SINGER, PROPERTY LAW: RULES, POLICIES, AND PRACTICES 278–81 (4th ed. 2006). A natural resource damages claim involves no such balancing test.

[32] Mary Christina Wood, *A Framework of China-U.S. Partnership to Address Global Warming*, 3 CHINA ENV'T & RESOURCES L. REV. 159, 182–85 (2007) (discussing the role of carbon natural resource damages to fund renewable energy initiatives).

B. Procedural Duties

1. The Duty of Undivided Loyalty

A trustee holds a strict duty of loyalty towards the beneficiary.[33] The duty of loyalty is the essence of the fiduciary relationship. As one commentator explains:

> [H]uman nature will cause any person to favor his or her personal interests over the interests of another, and it is this assumption of disloyalty that gives rise to the strict prohibitions of trustee conflicts of interest required under the label of "duty of loyalty."
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> . . . [A]s the beneficiary is assumed to be on the losing end of any conflict with the fiduciary's personal interests, loyalty can be preserved only if the relationship is stripped of the possibility of such conflicts. *The duty of loyalty is, therefore, not the duty to resist temptation but to eliminate temptation, as the former is assumed to be impossible*. The trustee is at the pinnacle of fiduciary duty and is held to the highest standards. As compared to other fiduciaries, the trustee holds the highest level of control over the other's property. It, therefore, follows that the trustee's duty of loyalty will be paramount and unforgiving, at least one hundred percent.[34]

While all government officers owe a duty to uphold the public interest—as reflected in their oath of office[35]—the trust duty of loyalty is an elevated duty associated with fiduciary offices. In the natural resources arena, government officials exert control over the people's assets. The trust functions are much different, and more weighty, than the bureaucratic functions of other offices dealing with human services, economic development, criminal and moral matters, education, and the like. As Professor Torres describes the implicit danger: "The essence of government corruption is to use the power of state to convert public assets for personal gain."[36]

The public trust duty of loyalty is owed to the beneficiaries of the trust—the citizens. Government agencies are obligated to make decisions in the best interests of the public, rather than for their own personal or political gain. When a trustee official uses his or her office to favor industry friends to the detriment of the public trust, the duty of loyalty is breached.[37] As the *Geer* Court admonished: "[T]he

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33 17 AM. JUR. 2D *Trusts* § 349 (2005).

34 Karen E. Boxx, *Of Punctilios and Paybacks: The Duty of Loyalty Under the Uniform Trust Code*, 67 MO. L. REV. 279, 279–81 (2002) (emphasis added) (footnotes omitted); *see also* DOUGLAS LAYCOCK, MODERN AMERICAN REMEDIES 593 (3d ed. 2002) ("A trustee is constantly subject to the temptation to use trust assets for his own benefit. The equity courts developed strict rules of fiduciary duty to combat that temptation.").

35 *See* JOHN A. ROHR, PUBLIC SERVICE, ETHICS AND CONSTITUTIONAL PRACTICE 70–71 (1998) (discussing the importance of oaths for "human activities of the highest order"); Debra S. Weisberg, *Eliminating Corruption in Local Government: The Local Government Ethics Law*, 17 SETON HALL LEGIS. J. 303, 305 (1993) (discussing duties of and ethical standards for public officials).

36 Torres, *supra* note 6, at 527.

37 Professor Sax observes: "[A] court will look with considerable skepticism upon *any* governmental conduct which is calculated . . . to subject public uses to the self-interest of private

power . . . is to be exercised, like all other powers of government, as a trust for the benefit of the people, and not as a prerogative for the advantage of the government, as distinct from the people . . . ."[38] The very purpose of the trust, in other words, is to remove public natural assets from the inherent vulnerability of "political" decisions that tend to favor singular private interests.

The duty of loyalty reaches its pinnacle with respect to natural assets necessary for public survival—like the atmosphere.[39] Because such assets are crucial and irreplaceable, breaching the strict duty of loyalty may bring irreversible damage to society and future generations. Thus, the inquiry into fiduciary loyalty must be particularly demanding with respect to issues such as global warming. While it is true that government sometimes must balance competing public interests in managing the natural trust, that situation is much different than making a trade-off of public interests to benefit private singular interests.

The federal government's longstanding recalcitrance on global warming issues can be explained by tradeoffs that violate the fiduciary duty of loyalty. A plethora of reports disclose that several high government officials in the George W. Bush Administration obstructed efforts to curb carbon pollution out of indulgence to industry interests with which they were closely allied.[40] In December 2007, the United States House of Representatives Committee on Oversight and Government Reform issued a report entitled *Political Interference with Climate Change Science Under the Bush Administration*, in which it found "a systematic White House effort to censor climate scientists by controlling their access to the press and editing testimony to Congress. . . . The White House . . . sought to minimize the significance and certainty of climate change by extensively editing government climate reports."[41]

Many political appointees were involved in this suppression of truth. Philip Cooney, who served as Chief of Staff of the White House Council on Environmental Quality, had formerly been a lawyer for fifteen years at the American Petroleum Institute.[42] In 2005, he altered key government climate reports to downplay scientific consensus on climate change.[43] Shortly thereafter, he

parties." Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 490 (1970).

38 *Geer*, 161 U.S. 519, 529 (1896).

39 *See* Kanner, *supra* note 6, at 75–77.

40 For discussion of the alliances between the George W. Bush Administration and the fossil fuel industry, particularly as it affects the federal policy on global warming, see *60 Minutes: Rewriting the Science* (CBS television broadcast Mar. 19, 2006) (alleging rewrites of climate science reports by the George W. Bush Administration); MARK BOWEN, CENSORING SCIENCE 105–07 (2008) (discussing industry influence on the energy policies forwarded by Vice-President Cheney); ROSS GELBSPAN, BOILING POINT ch. 3 (2004) (discussing industry influence on the George W. Bush Administration's view on climate change); and SETH SHULMAN, UNDERMINING SCIENCE ch. 2 (2006) (discussing the fossil fuel industry's influence on the George W. Bush Administration climate change policies. *See also infra* note 47 and sources cited therein. *See generally* ROBERT F. KENNEDY, JR., CRIMES AGAINST NATURE (2004) (discussing fossil fuel industry influence in the George W. Bush Administration).

41 U.S. HOUSE OF REPRESENTATIVES COMM. ON OVERSIGHT & GOV'T REFORM, POLITICAL INTERFERENCE WITH CLIMATE CHANGE SCIENCE UNDER THE BUSH ADMINISTRATION 33 (2007) [hereinafter POLITICAL INTERFERENCE].

42 *Id.* at 16–17.

43 *Id.*

resigned from his government post to join ExxonMobil.[44] In October 2007, Vice President Cheney's office pressured the head of the Center for Disease Control to change testimony to Congress on the health impacts from global warming.[45] In June 2008, the White House tried to prevent the United States Environmental Protection Agency (EPA) from publishing a document that would map out the basis for regulating carbon under the Clean Air Act.[46] What appears to be broadly accepted as ordinary politics in Washington would be flatly unacceptable under the trust approach as a violation of the strict duty of loyalty.[47]

2. Duty to Provide an Accounting

Finally, the trustee must disclose all matters pertaining to the health of the trust, and must provide an accounting of the profits and expenses to the trust.[48] An accounting is the method by which beneficiaries may ensure proper management of their property.[49] The scope of an accounting must include "all items of information in

44 *See* Andrew C. Revkin, *Ex-Bush Aide Who Edited Climate Reports to Join ExxonMobil*, N.Y. TIMES, June 15, 2000, http://www.nytimes.com/2005/06/15/science/14cnd-climate.html (last visited Jan. 25, 2009). Cooney's job before coming to government was "to ensure that any governmental actions taken relating to climate change were consistent with the goals of the petroleum industry." POLITICAL INTERFERENCE, *supra* note 41, at 17.

45 *See* H. Joseph Herbert, *Cheney Wanted Cuts in Climate Change Testimony*, SFGATE, July 10, 2008, http://www.sfgate.com/cgi-bin/article.cgi?f=/n/a/2008/07/08/national/w055900D69.DTL (last visited Jan. 25, 2009).

46 *See* Ian Talley & Siobhan Hughes, *White House Blocks EPA Emissions Draft*, WALL ST. J., June 30, 2008, http://online.wsj.com/article/SB121478564162114625.html?mod=rss_Politics_And_Policy (last visited Jan. 25, 2009).

47 At the extreme, an agency's disregard of the duty of loyalty can become embedded into agency culture, creating a dangerous level of disregard for civic duty and ethics on the part of civil servants. For example, a two-year investigation by the United States Department of Interior Inspector General into the Mineral Management Service has found "'a culture of ethical failure' and an agency rife with conflicts of interest." *Oil Brokers Sex Scandal May Affect Drilling Debate*, USA TODAY, Sept. 8, 2008, http://www.usatoday.com/news/washington/2008-09-11-oil-scandal-drilling_N.htm (last visited Jan. 25, 2009). Between 2002 through 2006, 19 workers at the Service's royalty collection office in Denver—nearly a third of the office—were having sex with, using drugs with, and accepting gifts and expensive trips from the very energy company representatives that they dealt with in administering the public's oil assets. *Id.* The report also found that the director of the federal royalty program had a consulting job on the side in which he earned $30,000 from a company that engaged him to market its services to various oil and gas companies. *Id.* He later joined a private oil company. *See* Derek Kravitz & Mary Pat Flaherty, *Report Says Oil Agency Ran Amok*, WASHINGTONPOST.COM, Sept. 11, 2008, *available at* http://www.washingtonpost.com/wp-dyn/content/story/2008/09/10/ST2008091002738.html (last visited Jan. 25, 2009). A congressional report released last year by the Joint Economic Committee concluded that the Minerals Management Service has failed to collect millions of dollars in oil royalties owed to the public. *See id.* Senators involved with oil issues accused the George W. Bush Administration of allowing illegitimate influence by the oil industry on government decisions pertaining to the administration of public oil leases. *See Oil Brokers Sex Scandal May Affect Drilling Debate*, *supra* (quoting Senator Bill Nelson as saying, "[The Inspector's report] shows the oil industry holds shocking sway over the administration and even key federal employees," and quoting Senator Charles Schumer as saying, "[T]he Bush administration officials [are] once again in cahoots with Big Oil."). Moreover, the Justice Department failed to prosecute when some of the illegal conduct was brought to its attention. *See* Kravitz & Flaherty, *supra.*

48 *See* LAYCOCK, *supra* note 34, at 593; Evans v. Little, 271 S.E.2d 138, 141 (Ga. 1980).

49 *See* Zuch v. Conn. Bank & Trust Co., 500 A.2d 565, 567 (Conn. App. Ct. 1985) ("The fiduciary relationship is in and of itself sufficient to form the basis for the [accounting]."); Faulkner v. Bost, 137

which the beneficiary has a legitimate concern."[50] In the financial context, this means a statement "in clear and concise terms [of] the nature and value of the corpus of the trust . . . and the amount and location of any balance or remainder."[51] A natural asset accounting would use various indicia that point to the health of the asset: acres of forestland or wetland, species populations, pollution levels, and the like.

The accounting, while developed in the context of financial trusts, is adaptable to the natural resources context. It is a necessary tool to prevent the government from bankrupting the natural wealth of this country. Environmental law already provides many requirements for studying resources and reporting on their overall health to the public. These could be thought of as natural accountings, though they are not called that. The Endangered Species Act (ESA),[52] for example, requires the United States Fish and Wildlife Service to undertake assessments as to the listed species' overall condition.[53] The Global Change Research Act of 1990[54] requires periodic assessments of climate.[55] The difference between such statutorily required reports and trust accountings is that the latter provides the basis for the beneficiaries to enforce fiduciary obligations against the trustee, while the former often spurs no action on the part of the informed agencies.

Carbon accountings are a particularly important tool in the face of climate crisis.[56] An accounting can establish the current carbon pollution emitted on a particular jurisdictional level (local, state, or federal) so as to define a baseline, and track progressive reduction over time.[57] Protocol for such accountings is fast developing.[58] Modern modeling is capable of quantifying a carbon footprint on virtually any scale, from individual to global.[59] The climate accountings, if subject to judicial oversight,[60] may be used to hold governments at all levels accountable for carrying out their fiduciary obligation to protect the atmosphere.[61] Because every

S.W.3d 254, 259 (Tex. App. 2004) (citing Texas Property Code, the court found that beneficiaries may file suit to compel a trustee to provide an accounting). Courts have held that "any beneficiary, including one who holds only a present interest in the remainder of a trust, is entitled to petition the court for an accounting." *In re* Estate of Ehlers, 911 P.2d 1017, 1021 (Wash. Ct. App. 1996) (citing Nelsen v. Griffiths, 585 P.2d 840, 843 (Wash. Ct. App. 1978)).

50 *Zuch*, 500 A.2d at 568.

51 *Id.*

52 Endangered Species Act of 1973, 16 U.S.C. §§ 1531–1544 (2006).

53 *See id.* § 1533(a)–(b).

54 15 U.S.C. §§ 2921–2961 (2006).

55 *Id.* § 2936.

56 *See* Torres, *supra* note 6, at 547 (calling for accounting).

57 *See* Mary Christina Wood, *Atmospheric Trust Litigation*, *in* ADJUDICATING CLIMATE CHANGE: SUB-NATIONAL, NATIONAL, AND SUPRA-NATIONAL APPROACHES (William C.G. Burns & Hari M. Osofsky eds.) (forthcoming 2009, Cambridge Univ. Press) (manuscript at 17), *available at* https://www.law.uoregon.edu/faculty/mwood/docs/atlpaper.pdf.

58 *See id.* (manuscript at 17–18).

59 For more detail on carbon accountings, see *id.* (manuscript at 16–18). *See also U.S. Cities Report Local Climate Actions, Emissions*, SCI. DAILY, Aug. 10, 2008, http://www.sciencedaily.com/releases/2008/08/080810214002.htm (last visited Jan. 25, 2009) (discussing plan to measure cities' greenhouse gas emissions).

60 *See* Wood, *supra* note 57 (manuscript at 16–18) (describing judicial remedy of court-supervised carbon accounting).

61 *See id.* (manuscript at 9–10) (discussing atmospheric trust obligation).

jurisdiction must lower carbon in order to avoid leaving deadly "orphan shares,"[62] such accountings are indispensable to comprehensive global climate policy.

III. THE INTERFACE BETWEEN TRUST OBLIGATIONS AND STATUTORY LAW

The modern administrative state operates within a detailed regime of statutory law. Trust principles underlie statutory law, and many statutes contain express provisions reflecting them. The National Environmental Policy Act (NEPA),[63] for example, declares in its opening section a national duty to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations."[64] The Endangered Species Act declares a national trust-like policy to conserve ecosystems and species.[65] The Clean Water Act[66] declares a national goal of eliminating the discharge of pollution into the navigable waters by 1985 and "restor[ing] and maintain[ing] the . . . integrity of the Nation's waters."[67] Several federal pollution laws provide for natural resource damages to the trust.[68]

It is important to map out the interface between trust law and statutory law. In general, statutory law provides bureaucratic structure and process, while the trust doctrine supplies a firm obligation that can steer agency discretion to carry out the protective goals of the statutes. The trust doctrine supplies a beacon within the broad realms of statutory discretion, which might on their own allow several conflicting resource outcomes.[69] In most cases, reorienting administrative practice towards safeguarding the trust is likely to effectuate underlying statutory goals that have been frustrated over the years by agencies using their deference in service to illegitimate political ends.

A. The Trust as an Interstitial Duty to Guide Agency Discretion

Environmental statutes generally provide discretion at four points. First, agencies interpret broad legislative mandates by promulgating rules and guidance documents. Second, agencies make individual permit and project decisions, bringing to bear a host of technical assumptions. Third, agencies have wide latitude in structuring their own operations and projects. Fourth, agencies have discretion to enforce the statutes and regulations they administer.[70] At all points in the process,

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62 For discussion of the orphan share concept, see Mary Christina Wood, *Law and Climate Change: Government's Atmospheric Trust Responsibility*, 10 Envtl. L. Rep. 10,652, 10,658 (2008).

63 National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370e (2000).

64 *Id.* § 4331(b)(1).

65 Endangered Species Act of 1973, 16 U.S.C. § 1531(b) (2006).

66 Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387 (2000).

67 *Id.* § 1251(a).

68 *See*, *e.g.*, Wood, *supra* note 57 (manuscript at 7).

69 *See* Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, 671 P.2d 1085, 1095 (Idaho 1983) ("[M]ere compliance by [agencies] with their legislative authority is not sufficient to determine if their actions comport with the requirements of the public trust doctrine.").

70 For discussion of enforcement within the context of the Clean Water Act, see Victor B. Flatt, *Spare the Rod and Spoil the Law: Why the Clean Water Act Has Never Grown Up*, 55 ALA. L. REV. 595, 599 (2004) (arguing that enforcement for nonpoint sources under the Clean Water Act is discretionary and has "no particular requirements").

agencies often use their discretion in a manner that subverts statutory goals[71] and diminishes public trust assets.

While ideally Congress would address the ecological crisis through a new set of trust-oriented statutes geared to solving the systemic problems, thus far Congress has passively abdicated responsibility. It is therefore worth examining how the trust approach can redirect agency behavior within the framework of existing statutory law. The fiduciary obligation to protect and restore public assets can form an overlay to nearly every environmental and land use statute.[72] The statutes typically provide ample authority for protecting the asset. Trust law can rein in bureaucratic discretion at all points in the process by holding the agency trustees to the "most exacting fiduciary standards" in administering the trust.[73] The trust approach, in effect, turns discretion into obligation and calls for a measurable standard of performance to protect the natural health of public assets.[74] The focus of the doctrine is not on some amorphous agency conception of the "public interest," but rather on the measurable abundance of the natural assets themselves. As Professor Charles Wilkinson has noted, "such a value-neutral approach" brings structure to the stewardship of natural lands and resources.[75]

Infusing the trust approach into agency practice requires identifying the pockets of discretion and invoking trust standards of protection as an interstitial duty that fills the gaps of statutory law.[76] First, where the agency has a choice of regulations to carry out statutory mandates,[77] the trustee orientation would require the approach that is most protective of the assets. Regulatory approaches that

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71 *See generally* Mary Christina Wood, *Advancing the Sovereign Trust of Government to Safeguard the Environment for Present and Future Generations (Part I): Ecological Realism and the Need for a Paradigm Shift*, 39 ENVTL. L. 43, 54–61 (2009).

72 In the area of federal Indian law, for example, all federal agencies have a trust duty to protect the property of tribes. Courts have emphasized that the trust duty is independent of statutory law and fits within the administrative framework. For discussion, see Wood, *supra* note 1, at 1472, 1544.

73 The Indian law context provides analogous fiduciary standards incumbent upon agencies in dealing with trust property. *See, e.g.*, Seminole Nation v. United States, 316 U.S. 286, 297 (1942); Jicarilla Apache Tribe v. Supron Energy Corp., 728 F.2d 1555, 1563 (10th Cir. 1984), *modified*, 793 F.2d 1171 (10th Cir. 1986) (stating where "the Secretary is obligated to act as a fiduciary . . . his actions must not merely meet the minimal requirements of administrative law, but must also pass scrutiny under the more stringent standards demanded of a fiduciary").

74 Unfortunately, there is no silver bullet lurking in the United States Code. The trust approach may catch hold in some agencies but not in others. In all cases, it will take leaders within and outside of the agencies to catalyze and drive this new orientation. In cases of agency recalcitrance, judicial intervention will be necessary.

75 Charles F. Wilkinson, *The Public Trust Doctrine in Public Land Law*, 14 U.C. DAVIS L. REV. 269, 316 (1980); *see also* Torres, *supra* note 6, at 543 ("The use of the trust vehicle is important because it creates enforceable obligations for which there is clear guidance arising from private practice that can directly inform the limitations on the exercise of governmental power.").

76 For a discussion of how this approach would work within the context of one statute, the Endangered Species Act, see generally Mary Christina Wood, *Protecting the Wildlife Trust: A Reinterpretation of Section 7 of the Endangered Species Act*, 34 ENVTL. L. 605 (2004).

77 Agencies often face such choices. In his article discussing Clean Water Act implementation, Professor Blumm detailed three areas in which the EPA chose a narrow regulatory approach that undercut the statute. Michael C. Blumm & William Warnock, *Roads Not Taken: EPA v. Clean Water*, 33 ENVTL. L. 79, 81 (2003).

convey broader protection for public assets are likely to be upheld by courts.[78] Second, where the agency has choices in formulating or operating projects such as dams, roads, and facilities, the trust duty requires selecting the alternative that rebuilds the natural assets at stake. Third, where the agency is charged with enforcing a regulatory program, it must actually enforce the program. If even just these three vectors of discretion were redirected towards protecting the trust, much would be accomplished.

B. Incorporating the Trust Approach into Permit Programs

The fourth vector of discretion requires special consideration. As noted in Part I of this two-part work, much of the environmental agencies' present workload consists of issuing permits for ecological damage.[79] The colossal expenditure of taxpayer money to degrade natural infrastructure is foolhardy in light of the present climate crisis and looming resource collapse. While extraordinary service to profit-driven industries has in the past been justified on the vague premise of supporting the economy, certainly the equation has changed in terms of public benefit—particularly in light of an emerging consensus among economists that economic prosperity and stability depends on sustainable green business.[80] The broad challenge facing America today is redirecting the energy and resources of government bureaucracies away from the business of asset destruction, and into the business of asset restoration. This inevitably requires agencies to draw the line against further damage and to "just say no" to many permit applications and permit renewals that come their way.

1. Hard to Say No

Even apart from political pressure, the prospect of denying permits is difficult for agencies, and many agency staffers simply cannot envision it, for several reasons. First, they may think the statute, having set up a permit process, was designed to allow or even require unlimited issuance of permits.[81] When agency officials convert the discretion to issue permits into an implicit internal prohibition against denying permits, they inadvertently turn the statutory scheme into something altogether different from what Congress likely intended.

While permit denials may be outside the contemporary experience of permit writers at various agencies, they are certainly foreseeable and inevitable within many if not most statutory schemes. Moreover, the Clean Water Act explicitly states that permits shall not be issued after a certain date. In creating the National

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[78] *See id.* at 83 (stating that courts would likely uphold broader interpretations of environmental statutes in light of the statutory goal); Douglas L. Grant, *Underpinnings of the Public Trust Doctrine: Lessons from Illinois Central Railroad*, 48 ARIZ. ST. L.J. 849, 879–80 (2001) (stating that courts could easily extend public trust doctrine to protect natural resources).

[79] *See* Wood, *supra* note 71, at 54–61.

[80] *See id.* at 65 n.113 and accompanying text (stating that a new "green" economy is key to jumpstarting job growth).

[81] *See* Mary Christina Wood, *EPA's Protection of Tribal Harvests: Braiding the Agency's Mission*, 34 ECOLOGY L.Q. 175, 181 (2007) (stating that rather than operating with goal of phasing out water pollution, EPA has enshrined the right to pollute through current permitting scheme).

Pollution Discharge *Elimination* System (NPDES), for example, Congress called for an end to pollution discharged to the nation's waters after 1985.[82] This mandate has been roundly ignored by EPA and state agencies, all of which continue to issue NPDES permits despite the fact that congressional intent to draw the line was perfectly stated.

Second, some agency staffers may be reluctant to deny permits because they think some sort of binding precedent was established through the past issuance of permits.[83] The response to this is that permits are usually limited in duration. NPDES permits, for example, last for five years at which time the permit is supposed to be revisited.[84] While in practice the EPA automatically extends such permits,[85] the trust approach would require phasing out pollution permits in accordance with Congress's original intent.

Third, there is an amorphous perception that the economy will collapse if industrial and development permits are phased out or denied on a broad scale.[86] But to the contrary, administrative action to curtail pollution gives opportunity for new, green businesses that otherwise would not have a competitive chance. As James Gustave Speth and others note, the entire economy must transform to meet the new ecological reality.[87] It likely will not do so as long as businesses receive free licenses to pollute.[88] History shows that complete bans on certain harmful products such as lead paint, asbestos, CFCs and PCBs, have triggered rapid innovations within industry to provide replacement products.[89] Overall, rebuilding natural wealth should give rise to a vast new set of business opportunities.

Fourth, some staffers may operate under a belief that landowners have a legalized, full-blown property right to continue the practice allowed in their permits. This misunderstanding results from confusion as to the relationship of public and private property rights. Private property rights and licenses are subservient to antecedent public rights. In the water appropriation context, for

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82 Federal Water Pollution Control Act, 33 U.S.C. § 1251(a)(1) (2000). For discussion, see Wood, *supra* note 81, at 181.

83 *See generally* Melissa Kwaterski Scanlan, *The Evolution of the Public Trust Doctrine and the Degradation of Trust Resources: Courts, Trustees and Political Power in Wisconsin*, 27 ECOLOGY L.Q. 135, 191–93 (2000) (discussing the challenges trustees face).

84 33 U.S.C. § 1342(b)(1)(B) (2000) ("[P]ermits . . . are for fixed terms not exceeding five years . . . .").

85 *See* Wood, *supra* note 81, at 181 n.40 and accompanying text.

86 *See, e.g.*, Mark C. Van Putten & Bradley D. Jackson, *The Dilution of the Clean Water Act*, 19 U. MICH. J.L. REFORM 863, 881 (1986) (discussing EPA's experimentation with more "efficient" permit issuance techniques at behest of dischargers' arguments that "water quality above present ambient standards is *too clean*" and further treatment is "treatment for treatment's sake").

87 JAMES GUSTAVE SPETH, THE BRIDGE AT THE END OF THE WORLD: CAPITALISM, THE ENVIRONMENT, AND CROSSING FROM CRISIS TO SUSTAINABILITY 116–21 (2008) (challenging economic assumptions of unlimited industrialized economic growth); *see also* HERMAN DALY & JOSHUA FARLEY, ECOLOGICAL ECON. 23 (2004) ("Where conventional economics espouses growth forever, ecological economics envisions a steady-state economy at optimal scale.").

88 Speth suggests charging companies for pollution permits. SPETH, *supra* note 87, at 100–02. Agencies may find it easier to charge for the license to pollute, rather than overtly phase out the pollution. The charge, or tax, could be considered a form of natural resource damage if the resulting funds are directed to asset restoration.

89 *See* Elizabeth R. DeSombre, *The Experience of the Montreal Protocol: Particularly Remarkable, and Remarkably Particular*, 19 UCLA J. ENVTL. L. & POL'Y 49, 59–62 (2000–2001) (discussing the technology forcing result of the Montreal Protocol's limitations on CFC manufacture).

example, courts have made clear that any right to use the public resource is fully revocable by the sovereign where the use conflicts with the public's interest in such resources.[90] Moreover, where a court finds that the private activity would damage the public trust asset, there is a complete defense to takings claims.[91] The full tapestry of judicial opinions indicates that courts are likely to uphold government protection of public assets,[92] and the public trust likely serves as a formidable shield against any challenges to agency action that protects ecology.

2. The Moratorium as a Tool for Saying No

The moratorium is perhaps the most appropriate and expedient legal tool for changing the direction of a permit program to protect the people's natural assets. A moratorium is an emergency measure, adaptable to nearly any natural resource or environmental context. It stabilizes the status quo and puts a brake on further damage. Moratoria have been used widely in land use planning, wildlife harvest situations,[93] and—in effect—by courts issuing prohibitive injunctions. They allow a reprieve from rapid resource harm while the administrative process takes its course in bringing about reform. The Supreme Court has upheld a three-year land use moratorium against a per se takings challenge.[94]

In the face of climate crisis, the most important and urgent moratorium is undoubtedly on new coal-fired plants. The nation's leading climate scientist, NASA's Jim Hansen, has testified in an Iowa coal plant permit proceeding that even one more coal plant with emissions of nearly six million tons of carbon dioxide per year over fifty years could be the "straw that breaks the camel's back."[95] Beyond coal-fired plants, moratoria should be considered for a broad range of polluting activity.

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[90] Nat'l Audubon Soc'y v. Superior Court of Alpine County, 658 P.2d 709, 723 (Cal. 1983), *cert. denied sub nom.* L.A. Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983); *see also* Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, Inc., 671 P.2d 1085, 1094 (Idaho 1983) (grant of lease of part of state shoreline for private docking facilities "remains subject to the public trust . . . [such that] the state is not precluded from determining in the future that this conveyance is no longer compatible with the public trust").

[91] *See* Esplanade Properties, LLC v. City of Seattle, 307 F.3d 978, 987 (9th Cir. 2002); Stevens v. City of Cannon Beach, 854 P.2d 449, 456–57 (Or. 1993), *cert. denied*, 510 U.S. 1207 (1994) (applying related doctrine of custom).

[92] *See, e.g.*, *Geer*, 161 U.S. 519, 529 (1896); *supra* note 91 and cases cited therein.

[93] *See* DANIEL R. MANDELKER ET AL., PLANNING AND CONTROL OF LAND DEVELOPMENT: CASES AND MATERIALS 760 (7th ed. 2008) (describing the development of moratoria as a tool to manage growth in municipalities); MICHAEL J. BEAN & MELANIE J. ROWLAND, THE EVOLUTION OF NATIONAL WILDLIFE LAW 104, 186–88, 482–84 (3d ed. 1997) (describing moratoria on bird, fish, and marine mammal harvests).

[94] Tahoe-Sierra Preservation Council, Inc. v. Tahoe Reg'l Planning Agency 535 U.S. 302, 341–43 (2002).

[95] Direct Testimony of James E. Hansen, *In re* Interstate Power & Light Co., Docket No. GCU-07-1, at 3–4 (Iowa Utilities Bd. Oct. 31, 2007), *available at* http://www.columbia.edu/~jeh1/2007/IowaCoal_20071105.pdf; *see also* Hansen et al., *supra* note 20, at 1939 ("Given the estimated size of fossil fuel reservoirs, the chief implication is that we, humanity, cannot release to the atmosphere all, or even most, fossil fuel CO_2. To do so would guarantee dramatic climate change, yielding a different planet than the one on which civilization developed and for which extensive physical infrastructure has been built."); James Hansen et al., *Dangerous Human-Made Interference With Climate: A GISS Model*

A moratorium against new permits should be combined with a process to revisit and retire existing permits as they come up for renewal, or earlier if circumstances warrant. A phased-in approach focusing initial attention on the most destructive permits makes sense. In the case of air pollution, for example, the first focus should be on existing coal-fired plants.[96]

Agencies should also explore the possibility of charging natural resource damages, or the equivalent, for pollution.[97] While some federal environmental laws explicitly provide a permit shield against such damages,[98] state laws may be more flexible. Even where natural resource damages are precluded, permit fees may nevertheless be permissible. The charge for polluting activity, in whatever form it takes, will prompt some businesses to eliminate their pollution without the threat of an expiring permit. The revenue from these costs should be directed to restoration programs that rebuild natural assets. Restoration, in turn, will stimulate opportunity for sustainable enterprise. Whether the agency has the authority to impose a pricing mechanism is a legal issue that must be resolved on a case by case basis.

While a moratorium is in place against future issuance of permits, agencies will have to grapple with at least four weighty dilemmas. These dilemmas cannot be put to rest by a singular approach. Because agencies differ in their enabling authority, any new approach to permitting requires considered analysis of the specific legal context, not the least of which involves the statutory relationship between the agency and the legislative body.

A first concern is that some agencies will not find explicit statutory or regulatory authority to deny future permits or retire existing permits. Where this is the case, they may embark on a regulation change or request explicit authority from the legislative body. Alternatively, they could construe the trust as a reservoir of authority underlying their statutory mandates, if the particular legal context justifies such a position. The Idaho Supreme Court has made clear that "mere compliance by [agencies] with their legislative authority is not sufficient to determine if their actions comport with the requirements of the public trust doctrine."[99]

There may also be cases where a statute seems to actually mandate environmental destruction carried out by the agency.[100] Standard analysis would conclude that a common law principle is trumped by explicit legislative

Study, 7 ATMOSPHERIC CHEMISTRY AND PHYSICS 2287 (2007), *available at* http://www.atmos-chem-phys.net/7/2287/2007/acp-7-2287-2007.pdf; *Dangerous Human-Made Interference with Climate: Hearing on "Dangerous Global Warming" Before the U.S. House of Representatives Select Committee on Energy Independence and Global Warming*, 110th Cong. 18 (2007), *available at* http://globalwarming.house.gov/tools/assets/files/0292.pdf (testimony of James E. Hansen, Dir., NASA Goddard Institute for Space Studies) ("[T]he most critical action for saving the planet at this time, I believe, is to prevent construction of additional coal-fired power plants without CO_2 capture capability.").

96 *See supra* note 95 and accompanying text (discussing the threat of coal-fired power plants).

97 In an advanced notice of a proposed rulemaking, the EPA alluded to the benefits of pricing carbon. *See* Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44,354, 44,409 (proposed July 30, 2008) ("EPA believes that market-oriented regulatory approaches, when well-suited to the environmental problem, offer important advantages over non-market-oriented approaches.").

98 *See, e.g.*, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601(10) (2000).

99 Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, 671 P.2d 1085, 1095 (Idaho 1983).

100 *See* Wood, *supra* note 71, at 55 n.69 and accompanying text.

expression.[101] The public trust realm, however, carries a major caveat to this general view. If construed as a constitutional limit on sovereign authority,[102] as it seemingly was in *Illinois Central Railroad Co. v. Illinois* (*Illinois Central*),[103] the trust can, in compelling circumstances, override legislative acts. Defining appropriate action in this context is largely unexplored legal terrain.

Second, there will be inevitable instances where the agency must permit some damage to the trust or risk public harm. For example, where a wildfire is raging, a helicopter may need to take significant amounts of water out of a drought-stricken lake to save firefighters' lives—even if that withdrawal harms an endangered species of fish. With increasing degradation caused by society's actions and harmful natural feedbacks, agencies will increasingly find themselves boxed in by these situations. Logically, a doctrine of public necessity works hand in hand with trust principles. Since the purpose of the public trust is protecting survival and welfare, limited transgressions against the trust must be allowed to carry out the same purpose. This could not be stretched, however, to an open-ended allowance. Public necessity is a narrow concept reserved for emergency situations and is certainly not a basis for allowing trust abrogation in the name of economic growth, jobs, or the like.[104]

Third, in retiring permits, agencies must make some accommodation for compelling public needs beyond acute necessity. This entails allowing some damage to public assets. As society enters a heat-stricken world, with not enough resources to go around, agencies will have to be judicious in allocating pollution permits to pollute to the most necessary categories of economic activity. Unfortunately, there is little administrative experience in deciding whether activity allowed by a permit confers overall benefits to society that justify damaging natural wealth.[105] In the past, freewheeling environmental destruction has been tolerated because natural resources were presumed infinite.[106] Administrative practice was justified by a naïve market-faith assumption that all economic activity is good, and good in the same degree, for society.[107] This approach puts on equal footing the manufacture of the gum ball machine and the kidney dialysis machine. The public

101 *See* Gwathmey v. State, 464 S.E.2d 674, 682–84 (N.C. 1995) ("In the absence of a constitutional basis for the public trust doctrine, it cannot be used to invalidate acts of the legislature which are not proscribed by our Constitution.").

102 *See* Wood, *supra* note 71, at 69–75.

103 146 U.S. 387 (1892).

104 Courts have rejected arguments that public trust assets should be used for private purposes. *See* Lake Mich. Fed'n v. U.S. Army Corps of Eng'rs, 742 F. Supp. 441, 447 (N.D. Ill. 1990) ("What we have here is a transparent giveaway of public property to a private entity. . . . The conveyance of lakebed property to a private party—no matter how reputable and highly motivated that private party may be—violates this public trust doctrine.").

105 NEPA focuses on just the harm side. It requires an inquiry into alternatives to the proposed action, but never forces the question of whether the action is worth the harm. National Environmental Policy Act of 1969, 42 U.S.C. § 4332 (2000). A proposed timber clear cut, for example, may irreparably damage plants, fisheries, and soils. NEPA requires the agency to study such damage, but it does not require the agency to evaluate whether the harm to public assets is justified by the economic benefits that purportedly flow from the timber sale.

106 *See* DALY & FARLEY, *supra* note 87, at 10–11 (explaining that the economic growth of the Industrial Revolution has turned natural resources, previously thought abundant, into the new scarce resources).

107 *See* SPETH, *supra* note 87, at 138 (explaining that gross domestic product, the traditional measure of economic welfare, "includes everything that can be sold or has monetary value, even if it adds nothing to human well-being or welfare").

trust doctrine calls for judicial skepticism towards any conveyances of public assets to private interests.[108] In the ecologically deprived world of the future, courts may allow agencies to permit a modicum of necessary damage to public assets, but they are likely to guard such assets against frivolous economic endeavors.

A few administrative models exist for prioritizing among uses of scarce resources. In the area of western water law, for example, only "beneficial uses" of water are permissible, and waste is restricted.[109] While rarely enforced, the basic concepts could serve as fulcrum principles for allocation of any scarce resource. In theory at least, an agency would prioritize a vegetable farm over a water park in times of scarcity. In the context of the Endangered Species Act, an exemption to push a species into extinction is only allowed where the public benefits of the action outweigh the public benefits of preserving the species, in light of all of the alternatives.[110] Such balancing formulas may extend to a variety of natural resource contexts. However, the best surrogate for prioritizing polluting activities may simply be a pricing mechanism. If the price of goods incorporates true environmental costs, the products or activities with significant value to society should sift out from the frivolous ones in the market place.[111] Using such a pricing mechanism would avoid much of the need for administrative choice making and would encourage more socially rational behavior. Agencies should explore mechanisms for arriving at an ecological pricing structure. Authority to create such mechanisms rests with their rule-making protocol, or with the legislature.

A fourth dilemma lurks in the reality that restoring ecosystems often entails some initial environmental damage. Removal of a dam, for example, releases silt in the waters below. Recovering a species of wildlife may negatively impact another species that uses the same habitat. Agencies must carefully craft "restoration permits" so that the business of ecosystem recovery will not be blocked by the permit process. A difficult, but inevitable, quandary in this regard will be the balance of competing trust interests. Increasingly, as ecosystems reach their most feeble state before collapsing, choices made to enhance one part of the ecosystem may sacrifice another part. Where the magnitude of the projected harm is great, society should not trust agencies with the "god-like" decisions of choosing between Nature's parts. The difficult question of who is an appropriate decision maker, and how to insulate the process from inappropriate concerns, is left for another day. Sometimes, but not always, conflicts between trust resources can be avoided by a

108 *Lake Mich. Fed'n*, 742 F. Supp. at 445 (iterating as a "basic principl[e]" of public trust law that "courts should be critical of attempts by the state to surrender valuable public resources to a private entity").

109 Janet C. Neuman, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL. L. 919, 920 (1998).

110 Endangered Species Act of 1973, 16 U.S.C. § 1536(h)(1) (2006). In a recent case involving threats to wildlife trust assets from a wind farm, a California court emphasized that a "reasonable balance" must be struck between conflicting environmental and energy concerns. Ctr. for Biological Diversity v. FPL Group, Inc., 166 Cal. App. 4th 1349, 1371 (Cal. Ct. App. 2008). Such a balance is to be made, in the first instance, by the relevant agency, with the court acting in an oversight role to ensure protection of the trust. *Id.* at 1368, 1371–72 ("If the appropriate state agencies fail [to enforce the trust], members of the public may seek to compel the agency to perform its duties, but neither members of the public nor the court may assume the task of administering the trust.").

111 *See* SPETH, *supra* note 87, at 100–06.

system-wide approach that invigorates the basic natural processes underlying the system as a whole.

Despite these profound dilemmas, this much can be said: If agencies redirect their workload from legalizing damage to charting restoration, they are on the path to fulfilling their trust obligation to the public despite the fact that the task entails weighty quandaries and imperfect outcomes.

IV. ENFORCING THE TRUST

While the public trust doctrine is a tool used in the judicial context, the "Nature's Trust" reorientation towards natural resources management uses the trust principle in all three branches of government. In a functioning democracy, judicial intervention would not be needed to ensure that the two other political branches would protect the survival assets needed by the citizens. But because of the undue influence of corporate lobbyists,[112] the short-term challenge of redirecting the political branches to meet their fiduciary obligations to the public is bound to require judicial involvement. The recalcitrance of the two political branches in face of climate crisis makes the point obvious. The courts seemingly hold the last vestige of power to protect the public's natural assets through injunctive relief.[113]

Courts must reach deep within the realm of common law to craft new, logical principles to resolve modern disputes. This is a task that many judges, particularly the newer ones, no doubt find daunting. While thirty years ago judges worked primarily with common law to resolve environmental disputes,[114] today they operate almost exclusively within the detailed structure of statutory law.[115] Enforcing the trust first requires judicial willingness to work with their traditional authority.

A. Defining the Trust Duties

The matter of judicial trust enforcement, simply put, distills into three steps. The first is defining the trust principles. This should not be overwhelming to judges.

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112 *See* BRIAN KELLEHER RICHTER ET AL., LOBBYING AND TAXES 1–4 (2008), *available at* http://personal.anderson.ucla.edu/brian.richter/research/Richter_Samphantharak_Timmons_2008_Lobbying_and_Taxes.pdf (noting a general perception that "money buys political access, access buys influence, and influence buys outcomes," and that $2.47 billion was spent lobbying in 2005). Studying the influence of lobbyists by direct correlation between corporate lobbying efforts and political results can be difficult and the results misleading. *Id.* at 3–4. From another, quantifiable perspective, however, one study found a "0.5 to 1.6 percentage point drop in effective tax rates due to a 1% increase in lobbying in dollar terms," or put another way, "for each additional $1 spent on lobbying the mean firm receives somewhere in the range of $6 to $20 of tax benefits." *Id.* at 29.

113 *See* Torres, *supra* note 6, at 547 (urging "recourse to the courts to enforce [trust] obligations").

114 *See* CRAIG N. JOHNSTON ET AL., LEGAL PROTECTION OF THE ENVIRONMENT 3–4 (2d ed. 2007) (explaining common law resolutions to pollution issues); Boomer v. Atl. Cement Co., 257 N.E.2d 870, 870 (N.Y. 1970) (involving common law nuisance action against cement plant).

115 *See generally* JOHNSTON ET AL., *supra* note 114, at 5 (explaining the promulgation of the major environmental law statutes in the 1970s that arose from the inadequacy of common law solutions to environmental disputes). *See also* Karol Boudreaux & Bruce Yandle, *Public Bads and Public Nuisance: Common Law Remedies for Environmental Decline*, 14 FORDHAM ENVTL. L.J. 55, 56 (2002) (stating "federal statutes, having provided the foundation for environmental regulation for more than 30 years, are seen generally as the most logical basis for protecting environmental rights").

Public trust law, as developed over two centuries, encompasses scores of individual cases decided by judges who assumed the task of defining the trust duty with respect to the circumstances before them—even if such circumstances had not been the subject of any legal precedent.[116] While there will be inevitable quandaries distinguishing between appropriate trust management and inappropriate alienation of the trust, other legal realms also have difficulties in distinguishing allowed activity from prohibited actions.[117] In some sense, judges are paid to draw difficult lines.

B. Evaluating Whether There has Been a Breach of Fiduciary Obligation

The second matter is defining the fiduciary obligation for the particular management instance and determining whether it was met or breached by the agency. While a basic duty of protection applies across the board to all types of assets, specific fiduciary obligations vary according to the nature and needs of the particular asset. For example, a fiduciary obligation with respect to wildlife might be expressed in terms of maintaining sustainable populations; the obligation with respect to water might be expressed in adequate river flows; and the fiduciary obligation with respect to the atmosphere may be expressed in terms of greenhouse gas levels that restore equilibrium. These parameters of asset health would be the equivalent of "reasonable care" in the financial trust context.[118] The driving factor in establishing a fiduciary standard is the asset's capacity to sustain and replenish itself. In some cases, a statute may already supply a standard, but in other cases the court will have to look to independent scientists for criteria.[119] Courts deal with these measures constantly in the statutory arena, so the fact that this task entails treading into the technical realm should not be a barrier.

In determining whether a breach of fiduciary duty has occurred, the major distinction between the trust context and the statutory realm is the deference accorded to the defendant. In the statutory context, courts often give blind deference to the agency's determination of asset health and management.[120] In the trust context, courts approach cases with meaningful judicial scrutiny. In public trust cases, courts will have to weigh scientific evidence to decide whether a fiduciary standard has been met by the agency trustee—just as, in financial cases, they have to scrutinize marked indicia to decide whether the trustee acted

116 The *Illinois Central* Court faced a novel situation: "We cannot, it is true, cite any authority where a grant of this kind has been held invalid, for we believe that no instance exists where the harbor of a great city and its commerce have been allowed to pass into the control of any private corporation." *Illinois Central*, 146 U.S. 387, 455 (1892).

117 The entire body of nuisance law, for example, rests on line-drawing between reasonable and unreasonable behavior with respect to property. *See, e.g.*, Page County Appliance Ctr., Inc. v. Honeywell, Inc., 347 N.W.2d 171 (Iowa 1984).

118 *See* RESTATEMENT (SECOND) OF TRUSTS § 176 (1959) ("The trustee is under a duty to the beneficiary to use reasonable care and skill to preserve the trust property.").

119 Courts have relied upon independent science in structuring injunctions for federal water project operations. *See* Pac. Coast Fed'n of Fishermen's Ass'ns v. U.S. Bureau of Reclamation, 138 F. Supp. 2d 1228, 1250 (N.D. Cal. 2001); *see also* Mary Christina Wood, *Restoring the Abundant Trust: Tribal Litigation in Pacific Northwest Salmon Recovery*, 36 Envtl. L. Rep. 10,163, 10,178 (2006).

120 *See* Wood, *supra* note 71, at 60 nn.89–90 and accompanying text (explaining also that impenetrable technical regulations mask underlying inappropriate influences on agency decisions).

appropriately. While few judges relish the task of evaluating scientific conclusions, they are already in the business of examining science in a wide realm of cases.[121] Courts have developed several judicial tools to gain the scientific expertise necessary for evaluating compliance with the fiduciary standard of care.[122]

C. Crafting the Remedy

1. Declaratory Relief

The third step is crafting the judicial remedy. It is within the traditional province of courts of equity to devise appropriate relief to remedy the harm.[123] Several tools are available to judges. A simple declaratory judgment setting forth the trust framework can have considerable value by immediately clarifying government's (and the public's) understanding of public fiduciary obligations. In that sense, a declaratory judgment could become a yardstick for political and administrative action that extends far beyond the immediate controversy. Declaratory relief, however, should be accompanied by suitable injunctive relief that allows courts to provide a remedy without invading the province of the political branches.[124]

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121 *See* Daubert v. Merrell Dow Pharm., Inc., 509 U.S. 579, 592–94 (1993) (assessing the sufficiency of scientific basis for proffered expert testimony in light of rules of evidence). For discussion, see Mary Christina Wood, *Reclaiming the Natural Rivers: The Endangered Species Act as Applied to Endangered River Ecosystems*, 40 ARIZ. L. REV. 197, 260–64 (1998) (arguing that the deference doctrine is diminished by the holding in *Daubert* which recognized courts' ability to evaluate science).

122 Increasingly, judges use court-appointed experts, technical advisors, and special masters to resolve difficult scientific questions in environmental, toxic torts, and product liability cases. *See* FED. JUDICIAL CTR., REFERENCE MANUAL ON SCIENTIFIC EVIDENCE 3, 5–7 (2000) (describing the increasing role of science in law and judges' tools for properly incorporating science into various types of cases); THE CARNEGIE COMM'N ON SCI., TECH., AND GOV'T, SCIENCE AND TECHNOLOGY IN JUDICIAL DECISION MAKING: CREATING OPPORTUNITIES AND MEETING CHALLENGES 38–39 (1993) (encouraging judges to use various tools to control which scientific evidence reaches the jury). For discussion of these various judicial tools, see Samuel H. Jackson, *Technical Advisors Deserve Equal Billing With Court Appointed Experts in Novel and Complex Scientific Cases: Does the Federal Judicial Center Agree?*, 28 ENVTL. L. 431 (1998); and Karen Butler Reisinger, *Court-Appointed Expert Panels: A Comparison of Two Models*, 32 IND. L. REV. 225 (1998). For an example of a court's use of a technical advisor to resolve complex and rapidly changing science involving species survival, see *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 2005 U.S. Dist. LEXIS 16658, at *15–18 (D. Or. Mar. 2, 2005) (upholding use of technical advisor in case brought under Endangered Species Act).

123 *See* Weinberger v. Romero-Barcelo, 456 U.S. 305, 312 (1982) ("The essence of equity jurisdiction has been the power of the [court] to do equity and to mould each decree to the necessities of the particular case. Flexibility rather than rigidity has distinguished it."); Alaska Ctr. for the Env't v. Browner, 20 F.3d 981, 986 (9th Cir. 1994) ("The district court has broad latitude in fashioning equitable relief when necessary to remedy an established wrong.").

124 *Weinberger*, 456 U.S. at 312 (the basis for injunctive relief is a finding of irreparable injury and the absence of an adequate legal remedy).

2. Natural Resource Accountings and Restoration Plans

Courts may force natural resource accountings. An accounting is a traditional remedy in both the cotenancy and trust contexts.[125] Courts have essentially required natural "accountings" in the environmental context before, without using the label. In determining rights to fish runs shared between states and tribes, for example, courts have delved into the quantitative aspects of beneficial use.[126] In determining water rights in a basin-wide adjudication, courts require agencies to look at the full water asset, the various draws upon it, and the balance of water left in the river.[127]

Judges could also order development of a restoration plan for the asset. An asset management plan is a traditional tool of trust law and bankruptcy law. Many environmental statutes, most notably the ESA, already require development of natural resource restoration plans, and they are well established in administrative practice.[128] A restoration plan allows the agency flexibility in deciding what measures to use in recovering the asset, but still provides clear bounds of asset restoration as required in a fiduciary context. Where there are multiple sovereign trustees having cotenancy interests in a shared asset (such as a migratory fishery, or a transboundary waterway) the court can devise a multisovereign process to develop a restoration plan under judicial supervision. The court can make the plan enforceable through a consent decree.

A judicially-ordered accounting and recovery plan does not invade the prerogatives of the other branches. These remedies simply spur action where the political branches neglect to carry out fiduciary responsibilities. Periodic reports provided to the court through the accounting process inform the court and the beneficiaries whether the agency trustee is making adequate progress in accordance with the plan. In this respect, the trust remedy may strike the ideal balance between necessarily potent, macro judicial enforcement and traditional deference to the political branches.

While some judges may be overwhelmed by what seems to them a novel context of natural trust supervision, it is important to bear in mind that the envisioned judicial role is much the same as in other natural resource contexts where courts have enforced allocation or recovery of diminished natural assets. In the treaty fishing wars of the late 1960s and 1970s, the District Courts of Oregon and Washington became, for a time, "fish masters," tasking themselves with

125 *See, e.g.*, Cobell v. Norton, 240 F.3d 1081, 1102–04 (D.C. Cir. 2001) (accounting action against federal government for mismanagement of Indian trust funds); Willmon v. Koyer, 143 P. 694, 695 (Cal. 1914) ("As an incident to a cotenancy relationship, either cotenant has a right to demand of the other an accounting as to rents and profits of the cotenancy, which of course, involves the right of one cotenant to have refunded to him by the other his proportion of any expenditures made for the benefit of the common property."); Zuch v. Conn. Bank & Trust Co., 500 A.2d 565, 568 (Conn. App. Ct. 1985) ("As a general matter of equity, the existence of a trust relationship is accompanied as a matter of course by the right of the beneficiary to demand of the fiduciary a full and complete accounting at any proper time." (citation omitted)); Evans v. Little, 271 S.E.2d 138, 141 (Ga. 1980) (providing an example of accounting in cotenancy context).

126 *See* discussion in Wood, *supra* note 22, at 16; *infra* note 129 and cases cited therein.

127 *See* discussion in Wood, *supra* note 121, at 222.

128 Endangered Species Act of 1973, 16 U.S.C. § 1533(f) (2006) (requiring "recovery plans").

detailed supervision of tribal and state salmon harvests.[129] The courts created a consent decree structure whereby the states and tribes developed a judicially supervised and enforceable plan for harvest of the salmon.[130] More recently, in the ESA lawsuits over the imperiled Columbia River salmon, the Federal District Court of Oregon has assumed a rigorous role overseeing the development of a fish recovery plan pursuant to a process of multisovereign consultation structured by the court.[131] Courts have also supervised broad plans in other areas such as zoning[132] and racial desegregation.[133] While courts must be cognizant of appropriate judicial boundaries in structuring relief for trust violations,[134] they seemingly have wide latitude in requiring sovereigns to develop enforceable plans for proper trust management.[135] The modern direction appears to be a hybrid of judicial and administrative roles in which the court draws upon negotiated remedy processes,

129 *See* Puget Sound Gillnetters Ass'n v. U.S. Dist. Court, 573 F.2d 1123, 1133 (9th Cir. 1978) (discussing the court's role as fish master and its intent to continue in that role), *vacated by* Washington v. Wash. State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658 (1979), *modified by* Washington v. United States, 444 U.S. 816 (1979); United States v. Washington, 520 F.2d 676, 685, 686, 693 (9th Cir. 1975) (detailing the Ninth Circuit's approach to regulating fishing rights); Wood, *supra* note 119, at 10,176–77.

130 *See* discussion in Wood, *supra* note 121, at 233.

131 *See* Wood, *supra* note 119, at 10,175–76 (discussing the federal district court's role in overseeing a remedy structure involving multiple sovereign organizations).

132 In *S. Burlington County, NAACP v. Township of Mount Laurel* (*Mt. Laurel I*), 336 A.2d 713, 727 (N.J. 1975), the New Jersey Supreme Court found that housing, along with food, is one of the "most basic human needs" and interpreted affordable housing as a right implicitly guaranteed by the State's constitution. The Court held that towns must bear their "fair share" of providing housing needed on a regional level and ordered a town to amend its zoning law to fulfill its fair share, noting that the "[t]he municipality should first have full opportunity to itself act without judicial supervision." *Id.* at 734. However, a second challenge was brought after the town failed to provide adequate housing. In that phase, the Court devised a detailed remedy structure that included ordering affirmative measures involving government subsidies, incentive zoning, mandatory set-asides, and other steps. S. Burlington County, NAACP v. Township of Mount Laurel (*Mt. Laurel II*), 456 A.2d 390, 418 (N.J. 1983). *See* discussion in SINGER, *supra* note 31, at 908. The Court authorized the appointment of special masters to rewrite the zoning ordinances to provide constitutionally sufficient housing. *Id.* (discussing remedy aspects of the case). The Court also provided for the appointment of regional trial judges to handle all zoning cases in order to generate consistent definitions of regions and to "determine in an orderly way each community's fair share of the regional housing need." *Id.* The *Mount Laurel II* case seems particularly helpful to the global warming context, where courts must allocate a fair share of carbon reduction liability on a regional basis and devise innovative approaches to enforcing that share.

133 *See, e.g.*, Brown v. Bd. of Educ. (*Brown I*), 347 U.S. 483, 495 (1954) (holding that segregation of public schools "deprived [students] of the equal protection of the laws guaranteed by the Fourteenth Amendment"); Brown v. Bd. of Educ. (*Brown II*), 349 U.S. 294, 299–301 (1955) (outlining the principles courts must follow in reviewing whether "the action of school authorities constitutes good faith implementation of the governing constitutional principles" articulated in *Brown I*); *see also* Alfred A. Lindseth, *Legal Issues Related to School Funding/Desegregation*, *in* SCHOOL DESEGREGATION IN THE 21ST CENTURY 41, 43–48 (Christine H. Rossell et al. eds., 2002) (summarizing the legal history of school desegregation); Bradley W. Joondeph, Missouri v. Jenkins *and the De Facto Abandonment of Court-Enforced Desegregation*, 71 WASH. L. REV. 597, 612–13 n.79 (1996) (citing cases where the court placed schools under judicial supervision to ensure proper implementation of desegregation remedies).

134 *See* Cobell v. Kempthorne, 455 F.3d 317, 330–31 (D.C. Cir. 2006) (reviewing reversals of district court remedies in an Indian trust accounting case).

135 *See* Cobell v. Norton, 283 F. Supp. 2d 66, 132 (D.D.C. 2003), *vacated in part*, 392 F.3d 461, 464–65 (D.C. Cir. 2004).

technical advisors, special masters, and innovative structures to ensure that judicial supervision is effective.[136]

D. Injunctive Backstops and Other Remedies

Courts have considerable power to force asset protection through discrete injunctive measures tailored towards individual causes of harm. The injunctive power of a court operates as a de facto moratorium against harmful activities. In the air and climate context, measures might include injunctions against new coal-fired plants and injunctions against large-scale logging that destroys valuable carbon sinks. In past cases brought under various statutes, courts have enjoined recreational vehicle use on public lands, sewer hook-ups, grazing in riparian areas, fishing, and a myriad of other activities that impact public assets.[137]

There is also a toolbox of potential remedies that might be invoked by judges against individual trustees who violate their fiduciary responsibilities. One might imagine removal of a trustee who breaches a duty of loyalty to the beneficiaries. Of

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136 For a discussion of the modern judicial role of special masters in complex litigation, see Margaret G. Farrell, *The Function and Legitimacy of Special Masters*, 2 WIDENER L. SYMP. J. 235, 236–37 (1997); *and* Wood, *supra* note 26, at 419–22.

> [T]he increasingly complex nature of our industrial society demands a changing role for courts. The nature of certain claims—particularly those involving environmental liability, toxic torts, and institutional reform—requires rulings that . . . respond to a myriad of scientific and management challenges posed by various circumstances. . . . Prison or school reform often involves court-supervised management of institutions, which entails operational complexity. All of these situations surpass the ability of individual judges alone to provide relief when acting in a traditional capacity. Increasingly, the nature of relief necessitates developing an elaborate, case-specific, administrative structure within the court. If the [courts are] reluctant to assume the challenge of fashioning meaningful relief to meet these changing societal demands . . . judicial passivity will create an imbalance among the three branches of government, threatening the separation of powers underlying the constitutional democracy. . . . Increasingly courts are responding to the challenge of providing meaningful relief by forging new models of judicial operation.

Id. at 419–20. A recent decision emphasizes that the court's proper role is one of oversight, and that judges should not usurp the regulatory process. *Ctr. for Biological Diversity*, 166 Cal. App. 4th 1349, 1368, 1371–72 (Cal. Ct. App. 2008).

137 *See, e.g.*, Pac. Rivers Council v. Thomas, 30 F.3d 1050, 1051–52 (9th Cir. 1994) (enjoining the United States Forest Service from proceeding with projects under land resource management plans prior to ESA consultation); Lane County Audubon Soc'y v. Jamison, 958 F.2d 290, 293 (9th Cir. 1992) (enjoining the Bureau of Land Management from new timber sales until the completion of ESA consultation); Thomas v. Peterson, 753 F.2d 754, 755–56 (9th Cir. 1985) (enjoining construction of road until agency prepared biological assessment); Or. Natural Desert Ass'n v. Singleton, 75 F. Supp. 2d 1139, 1141 (D. Or. 1999) (permanently enjoining grazing in all "areas of concern"); United States v. Metro. Dist. Comm'n, 757 F. Supp. 121, 128–29 (D. Mass. 1991), *aff'd*, 930 F.2d 132, 137 (1st Cir. 1991) (moratorium against sewer hook up); Am. Motorcyclist Ass'n v. Watt, 543 F. Supp. 789, 792 (C.D. Cal. 1982) (enjoining off-road vehicle use because agency plan did not comply with the statute); Jeffery J. Matthews, *Clean Water Act Citizen Suit Requests for Municipal Moratoria: Anatomy of a Sewer Hookup Moratorium Law Suit*, 14 J. ENVTL. L. & LITIG. 25, 34–37 (1999) (discussing injunctions against sewer hookups).

course, the ultimate enforcement mechanism is to hold government officials personally in contempt of court for failure to carry out court-ordered fiduciary duties.[138]

In sum, it is worth emphasizing that courts should be a last resort, but a resort nonetheless. Americans have three branches of government to work with in achieving transformative change. Judicial intervention is necessary if the Executive Branch continues to deplete and mismanage natural resources into a state of bankruptcy and if the Congress remains deadlocked—a situation that threatens human life, welfare and, ultimately, civilization itself. In some fundamental sense, the Framer's notion of checks and balances reaches its greatest justification at this time in the nation's history.

V. THE PUBLIC TRUST AND PRIVATE PROPERTY RIGHTS

No transformation can be achieved without reconciling the need to protect ecology with private property ownership prerogatives. Unfortunately, thirty years of statutory law has produced an imbalanced picture in which public property rights are simply not in the equation. Private property ownership has always been an amalgam of rights and responsibilities,[139] but regulation of private property often presents a unilateral picture of government inhibiting the freedom of the landowner, all too often igniting individual and community resentment. The adjustment between private liberties and responsibility to the commonwealth is awkwardly dealt with in the realm of regulatory takings law through obscure and complicated judicial decisions rendered by the Supreme Court[140]—most Americans have not read them.

In contrast to statutory law, public trust law springs from the property realm and forces an adjustment of private property rights and expectations to protect the people's property rights in common, vital assets. Where a trust asset is at stake, the private property owner's ownership must recede to the superior *property* interest of the people as a whole.[141] It is well settled that where the public trust limits a

138 One district court judge threatened United States Department of Agriculture Undersecretary Mark Rey with contempt of court and jail time for the agency's systematic disregard of the rule of law. Matt Daly, *Agriculture Chief's Priority: Avoid Jail*, USA TODAY, Feb. 2, 2008, http://www.usatoday.com/news/washington/2008-02-23-2528135774_x.htm (last visited Jan. 25, 2009). The agency failed to conduct environmental analysis required by statute in connection with the use of fire retardant that kills fish. *Id.*

139 *See* Nebbia v. New York, 291 U.S. 502, 523, 525–26 (1933) ("[N]either property rights nor contract rights are absolute; for *government* cannot exist if the citizen may at will use his property to the detriment of his fellows, or exercise his freedom of contract to work them harm. Equally fundamental with the private right is that of the public to regulate it in the common interest. . . . The court has repeatedly sustained curtailment of enjoyment of private property, in the public interest. The owner's rights may be subordinated to the needs of other private owners whose pursuits are vital to the paramount interests of the community. The state may control the use of property in various ways . . . .").

140 *See, e.g.*, Rachel A. Rubin, *Taking the Courts: A Brief History of Takings Jurisprudence and the Relationship Between State, Federal, and the United States Supreme Courts*, 35 HASTINGS CONST. L.Q. 897, 897–918 (2008) ("Regulatory takings law today is criticized as a confused muddle, intractable, as an ambiguous area in which the United States Supreme Court complicates its own jurisprudence with each new decision . . . .").

141 Esplanade Prop. v. City of Seattle, 307 F.3d 978, 987 (9th Cir. 2002); *see also* Stevens v. City of Cannon Beach, 854 P.2d 449, 456–57 (Or. 1993), *cert. denied*, 510 U.S. 1207 (1994) (applying related doctrine of custom).

landowner's use of property, there is no "taking" of private property, because the public ownership is antecedent and superior to the property owner's title.[142]

In essence, then, there are two sets of property rights that Americans hold. One is the private property right that landowners have. The other is a right held in common to public assets. This right, as noted earlier, is expressed as the beneficiaries' ownership, as managed through government acting as trustee. The government, as sovereign agent of the people, must strike a balance between these two sets of rights to assure maximum welfare of the public and protection of individual liberties. As a necessary step towards achieving transformative change, it is important to acknowledge several realities forming the ecological context of private property rights.

A. The Ecological Context of Property Rights

1. Natural Infrastructure and Private Property

Perhaps most important, natural infrastructure is vital to the enjoyment of private property and, indeed, to the institution and tradition of private property ownership itself. When fires, floods, rising sea levels, hurricanes, and other natural disasters brought on by climate change and environmental destruction occur, they make land uninhabitable (temporarily or for a permanent duration) and disrupt the legitimate expectations of the people owning those lands. Moreover, when these disasters trigger societal chaos, mass evacuations, and looting, property title becomes altogether irrelevant. Government alone protects private property rights, and when the government is not functioning during chaos, there is no such thing as security in private property ownership—title is thrown to the invaders. As a broader proposition, the entire institution of private property depends on natural resources stability, because if civilization falls due to natural disaster, so will all of its edifices fall, including the legal regime of private property.

While Americans understand the important role of human-made infrastructure such as electricity, roads, water conveyance systems, communication lines and the like, many are oblivious to the even more vital and irreplaceable role of the natural infrastructure that supports society.[143] This natural infrastructure consists of all parts of Nature's web—wetlands, forests, grasslands, waters, riparian areas, fish, wildlife, and soils. Ecology is comprised of all of these elements working together as a whole. To preserve some parts and not others defies basic ecological principles—and reality itself—somewhat like trying to build a bridge span without the footings.[144]

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142 *See, e.g.*, *Esplanade Prop.*, 307 F.3d at 985–87; *Stevens*, 854 P.2d at 456–57.

143 For discussion of natural infrastructure, see MARK A. BENEDICT & EDWARD T. MCMAHON, GREEN INFRASTRUCTURE: LINKING LANDSCAPES AND COMMUNITIES, at xvi (2006) ("Unlike our roads, storm water systems, schools, and other types of public infrastructure, green infrastructure—natural lands and processes—is perceived as an amenity, not as a necessity—a 'nice to have' rather than a 'must have.'").

144 Aldo Leopold once expressed the wisdom behind ecological thinking in these terms:

> If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then

The relationship of private title to natural infrastructure is one of individual rights supported by common ownership. Property law has many such relationships. A condominium owner, for example, owns her unit individually yet owns a common property interest in the stairs, roof, parking areas, and grounds that make the place complete.[145] Without this common infrastructure, the individual unit would be nothing but a shell for habitation. So it is with natural infrastructure: enjoyment of all private title depends on it.

2. The "Tragedy of Fragmentation"

The second reality is that rebuilding the natural infrastructure requires protecting resources broadly across private lands, which total approximately two-thirds of the land base in this country.[146] These private lands are vital to ecosystem integrity. More than half of the imperiled species in the United States, for example, rely exclusively on private lands.[147]

Private property owners regularly destroy habitat, forests, wetlands, riparian areas, and soils under permission of statutory law.[148] Agencies carrying out these laws rarely inventory the destruction of these assets in a cumulative sense.[149] Instead, they typically focus their regulation on a parcel-by-parcel basis, allowing incremental damage as a matter of routine.[150] As Professor Goble points out, the result of this "Tragedy of Fragmentation" is incremental loss that adds up to a colossal natural deficit.[151]

> who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.

ALDO LEOPOLD, CONSERVATION ROUND RIVER 146–47 (Luna B. Leopold ed., 1953).

145 *See* SINGER, *supra* note 31, at 426.

146 RUBEN N. LUBOWSK ET AL., U.S. DEP'T OF AGRICULTURE, MAJOR USES OF LAND IN THE UNITED STATES, 2002, at 35 (2002), *available at* http://www.ers.usda.gov/publications/EIB14/eib14.pdf.

147 JAN G. LAITOS, SANDRA B. ZELLMER, MARY C. WOOD & DANIEL H. COLE, NATURAL RESOURCES LAW 656 (2006).

148 *See, e.g.*, Randall S. Guttery et al., *Federal Wetlands Regulation: Restrictions on the Nationwide Permit Program and the Implications for Residential Property Owners*, 37 AM. BUS. L.J. 311, 313 (2000) (discussing section 404 permitting authority of United States Army Corps of Engineers (Corps) under the Clean Water Act). For an account of the Corps's permitting record under section 404, see LAITOS, ZELLMER, WOOD & COLE, *supra* note 147, at 815 (noting less than 0.2% of permits are denied). As another example, two-thirds of the greenhouse gas pollution emitted in this country is pursuant to government-issued permits. Laura H. Kosloff & Mark C. Trexler, *Consideration of Climate Change in Facility Permitting*, *in* GLOBAL CLIMATE CHANGE 259 (Michael B. Gerrard ed., 2007).

149 *See* Dale D. Goble, *Constitutional Conflicts on Public Lands: The Property Clause* as if *Biodiversity Mattered*, 75 U. COLO. L. REV. 1195, 1196 (2004); J. CLARENCE DAVIES & JAN MAZUREK, POLLUTION CONTROL IN THE UNITED STATES 16–19 (1998) (discussing the negative consequences of the fragmentation of EPA's pollution control).

150 See Goble, *supra* note 149, at 1196. As an example, Goble points out that between 1950 and 1970, nearly half of the wetlands along the coasts of Massachusetts and Connecticut were destroyed, "not as a result of a conscious decision, but through the conversion of hundreds of small tracts." *Id. See also* Robin Kundis Craig, *Climate Change, Regulatory Fragmentation, and Water Triage*, 79 U. COLO. L. REV. 825, 831 (2008) ("[T]he lack of any comprehensive oversight and the existence of regulatory fragmentation have led to pollution standards established on the basis of immediate human health concerns, at the expense of more protective standards that would both better protect human health and simultaneously safeguard downstream species and ecosystem health.").

151 Goble, *supra* note 149, at 1196.

What has most hindered the regulation of private property is a wide perception gap between the individual damage associated with private property use and the mounting cumulative loss to the nation's natural infrastructure. While a hurricane may be far more destructive because of the lack of coastal wetlands to serve as a storm buffer,[152] that reality is rarely tied to the individual actions that destroy wetlands on individual parcels in the first place. At the time of regulation, the private property owner and the public both tend to focus exclusively on the impact of regulation to the owner's freedom. The environmental damage caused by an owner on one tract alone is rarely seen as amounting to much. Yet, it all adds up.

This is the quandary of any problem caused by factors that "all add up": to solve the problem, one must focus on even the small actions, yet doing so causes resentment, because the perception of individual sacrifice is out of proportion to the amount of public harm avoided by the sacrifice. In other words, there is always a skewed balance between private and public interests at the point of regulation. This is not, however, an insurmountable problem. Government itself functions by drawing contributions from small players in the hopes that it will "all add up" to operate a public infrastructure. Property taxes are charged to every parcel, no matter that some of the parcels contribute merely a few dollars to an account that must grow to billions to support the modern needs of the populace. To move forward with ecological protection, the popular perception must change to view natural infrastructure needs and responsibility as an inherent part of every parcel owner's property ownership—somewhat akin to property taxes.

3. Depleting Nature's Trust: By Hook and by Crook and Countless Other Ways

The third reality is that vital natural infrastructure is depleted not just through overt actions, like taking water from a stream or shooting wildlife, but from the less obvious "incidental" categories of action as well. Polluting waters and air amounts to just as direct an assault on natural infrastructure as the intentioned categories of asset depletion.

But again a problem arises due to a gap between public perception and reality. The public has trouble striking a balance between rights and responsibilities in what it cannot immediately see. A bird shot from the sky is much easier for the public to grapple with than a million tons of carbon dioxide spewed from a coal-fired plant. Because toxic pollution, habitat destruction, and carbon emissions do not immediately deliver corpses, the public has trouble viewing such degradation as an impairment of its common property rights to Nature's Trust.

Again, however, the law must close the gap between perception and reality. If the public owns the air—a principle acknowledged as far back as Roman times[153]—then pollution that fouls the air and threatens to disrupt climate equilibrium is, in effect, as direct and actionable a threat to public property as taking wildlife without

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[152] *See* EPA, Wetlands: Shoreline Erosion, http://www.epa.gov/owow/wetlands/shoreline_erosion.html (last visited Jan. 25, 2009).

[153] *See* Jose L. Fernandez, *Untwisting the Common Law: Public Trust and the Massachusetts Ordinance*, 62 ALB. L. REV. 623, 626 (1998) (describing historical origins of public trust doctrine); *Geer*, 161 U.S. 519, 525–28 (1896) (detailing ancient and English common law principles of sovereign trust ownership of air, water, sea, shores, and wildlife).

a license. In arriving at the delicate balance between private property rights and public trust ownership, pollution and other incidental action must be brought into the equation.

B. The Nature of Private Property

With those ecological realities in mind, it is useful to focus on some assumptions of private property ownership before embarking on the question of how a Nature's Trust paradigm would interact with private property rights.

1. The Bargain and Reciprocity

The utter dependence of private property on natural infrastructure gives rise to an implicit obligation—or bargain—on the part of any landowner. Just as the condominium owner must contribute a fair share to the common grounds, so must a property owner contribute a fair share to the green infrastructure supporting society. The property owner has the benefit of a government that will protect her property rights, but the other side of the bargain is that her property use must not damage the infrastructure needed by the common society. Jean Jacques Rousseau said in *The Social Contract*: "[T]he right which each individual has over his own property is always subordinate to the right which the community has over all; without which there would be no solidity in the social bond, nor any real force in the exercise of sovereignty."[154]

By protecting public infrastructure, the regulation of individual parcels gives rise to a "reciprocity of advantage" for the property owner. This understanding of property regulation to protect public assets is lodged not only in Supreme Court caselaw,[155] but in longstanding American tradition. As Theodore Roosevelt observed:

> The man who wrongly holds that every human right is secondary to his profit must now give way to the advocate of human welfare, who rightly maintains that every man holds his property subject to the general right of the community to regulate its use to whatever degree the public welfare may require it.[156]

2. The Limits of Boundaries

The second, related, point is that property ownership has never consisted of full dominion over the resources found on the land. The power of possession does not translate into an unfettered right to do whatever one pleases within the bounds

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154 JEAN JACQUES ROUSSEAU, THE SOCIAL CONTRACT 21–22 (Oskar Piest ed., Hafner Publ'g Co. 1947) (1762).

155 *See* Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 491 (1987) ("Under our system of government, one of the State's primary ways of preserving the public weal is restricting the uses individuals can make of their property. While each of us is burdened somewhat by such restrictions, we, in turn, benefit greatly from the restrictions that are placed on others."); Nebbia v. New York, 291 U.S. 502, 525 (1933) ("The court has repeatedly sustained curtailment of enjoyment of private property, in the public interest.").

156 Theodore Roosevelt, New Nationalism Speech (Aug. 31, 1910), http://www.teachingamericanhistory.org/library/index.asp?document=501 (last visited Jan. 25, 2009).

of her property. As the Supreme Court of New Jersey once said: "A man's right in his real property of course is not absolute. It was a maxim of the common law that one should so use his property as not to injure the rights of others."[157]

Title ownership confers legitimate possessory status and positions a citizen into a relationship with the broader community. The relationship between the owner and the community springs from the fact that a property owner is in control of resources needed by the public. The boundaries of private parcels are important for some dimensions of ownership—namely to define the possessory interest—but not so useful in defining the responsibilities that flow from ownership. Indeed, responsibilities accrue primarily out of concern for interests *located outside* the boundaries—interests of neighbors and the public at large. There is an obvious and continuing public overlay to all private property ownership, as evidenced by the pervasiveness of private property regulation. As the Supreme Court said in 1907: "[T]he State has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain."[158] While we have become accustomed to thinking of the public overlay in exclusively regulatory terms, there is also an important public trust dimension.

Accordingly, within a parcel's boundaries, there may be a combination of public and private property interests. Where public assets are present, the property owner may not destroy such assets. Case law, for example, is settled that the property owner is not entitled to take wildlife located on her own property without a license issued by the sovereign acting on behalf of the people.[159] In short, private property boundaries do not represent land excised from the public trust.

The interface between public trust rights and private ownership interests has been expressed in streambed cases as *jus publicum* and *jus privatum*.[160] The *jus publicum* and *jus privatum* can be thought of as two parts of the bundle of ownership in a parcel of land. The former represents the public's ownership interest—often expressed as a servitude—in the property for purposes of fishing, navigation, commerce, and for more modern uses as well. The property owner can

157 State v. Shack, 277 A.2d 369, 373 (N.J. 1971).

158 Georgia v. Tenn. Copper Co., 206 U.S. 230, 237 (1907); *see* Leigh Raymond & Sally K. Fairfax, *The "Shift to Privatization" in Land Conservation: A Cautionary Essay*, 42 NAT. RESOURCES J. 599, 614 (2002) ("[T]he [public trust doctrine] underscores the idea that private land in the United States is considered to be held by the present or a prior sovereign and is subject, upon granting to private individuals, to terms that inhere in the nature of sovereignty. Title to land is accordingly not 'absolute.' No matter how clear the deed, grant, or terms and conditions of the contract that ostensibly gave the private landowner dominion over a piece of land, that title is always subject to underlying limits of public rights.").

159 *See* State v. Mallory, 83 S.W. 955, 959 (Ark. 1904) ("[T]he owner of land has a right to take fish and wild game upon his own land. . . . It is not, however, an unqualified and absolute right. . . . [I]t must always yield to the state's ownership and title, held for the purposes of regulation and preservation for the public use."); Schulte v. Warren, 75 N.E. 783, 786 (Ill. 1905) (stating that a property owner's right to hunt and fish on his land is subject to state regulation).

160 Esplanade Properties, LLC v. City of Seattle, 307 F.3d 978, 985 (9th Cir. 2002) (citing State v. Longshore, 5 P.3d 1256, 1262 (Wash. 2000)).

hold possession and use the land in exercise of her *jus privatum* right, but the owner may not damage the land so as to impair the public's interest in it.[161]

Obviously, not all lands are created alike. Some have valuable natural resources, and others have been so degraded that they have only concrete and structure and little of anything natural. An individual who owns riverfront property with wetlands and an endangered species on it is going to have (and should expect) a more prominent public trust interest in her parcel than a person owning a suburban plot with a house and driveway and a small lawn. The relative interests of *jus publicum* and *jus privatum* will shift in their weight according to the nature of the parcel and how valuable its resources are to the general public.[162]

3. Ownership as Adjusting to the Needs of Society

The final observation is that property rights are defined by the sovereign and are therefore subject to change as needs of society change. The private property owner's relationship with the broader community is not static. As Professor Powell once observed, "time marches on towards new adjustments between individualism and the social interests."[163] The New Jersey Supreme Court highlighted this principle in a landmark case, *State v. Shack*:[164]

> [A]n owner must expect to find the absoluteness of his property rights curtailed by the organs of society, for the promotion of the best interests of others for whom these organs also operate as protective agencies. The necessity for such curtailment is greater in a modern industrialized and urbanized society than it was in the relatively simple American society of fifty, 100, or 200 years ago. The current balance between individualism and dominance of the social interest depends not only upon political and social ideologies, but also upon the physical and social facts of the time and place under discussion.[165]

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161 *Id.*; *see also* Marks v. Whitney, 491 P.2d 374, 381 (Cal. 1971) (holding, in tidelands case: "There is absolutely no merit in Marks' contention that as the owner of the jus privatum under this patent he may fill and develop his property . . . .").

162 Legal commentators have expressed this point in various ways. *See* LAITOS, ZELLMER, WOOD & COLE, *supra* note 147, at ch. 9. In a slightly different context involving the exercise of the police power, the Supreme Court expressed the private/public balance of interests in this way:

> Looking, then, to the common law, from whence came the right which the Constitution protects, we find that when private property is "affected with a public interest, it ceases to be *juris privati* only." This was said by Lord Chief Justice Hale more than two hundred years ago, in his treatise *De Portibus Maris*, 1 Harg. Law Tracts, 78, and has been accepted without objection as an essential element in the law of property ever since. Property does become clothed with a public interest when used in a manner to make it of public consequence, and affect the community at large. When, therefore, one devotes his property to a use in which the public has an interest, he, in effect, grants to the public an interest in that use, and must submit to be controlled by the public for the common good, to the extent of the interest he has thus created. He may withdraw his grant by discontinuing the use; but, so long as he maintains the use, he must submit to the control.

Munn v. Illinois, 94 U.S. 113, 125–26 (1876).

163 RICHARD R. POWELL & PATRICK J. ROHAN, POWELL ON REAL PROPERTY 853 (1968).

164 277 A.2d 369 (N.J. 1971).

165 *Id.* at 373 (citing 5 Powell, Real Property § 745, 494–96 (1970)).

As the world faces climate heating and massive loss of natural resources, there will be an increasing premium on lands that retain or support public trust assets. In order to protect society at large, there will necessarily be more emphasis on protecting and restoring all of the natural infrastructure that is left, regardless of its location on public or private property. But even as the responsibilities of private property ownership increase to reflect urgent needs of society, so will the reciprocal benefit to private property owners increase. This is because protected natural infrastructure is essential not only to securing private parcels, but also to safeguarding the very institution of private property that supports all ownership prerogatives.

C. A Nature's Trust Principle Applied to Private Property: "The Earth Belongs in Usufruct to the Living"

If society is to protect the remaining inventory of land and resources, the conception of the landowner's title must be consistent with the goal of long-term sustainability. Unchecked license to clear cut property, or destroy its wetlands, or engage in other destructive action that is for all practical purposes irreparable, simply perpetuates the kind of behavior that has brought the world to ecological crisis. Property owners' use of land must find some meaningful restraint in the natural use to which their land is suited—a principle introduced by the Supreme Court of Wisconsin three decades ago.[166] As noted above, part of the restraint on private property is the public trust servitude, the scope of which will no doubt expand as scarce resources carry an even greater premium to society. A corollary principle focuses on the landowner's estate and the rights and obligations it carries.[167]

In a famous letter to James Madison in 1789, Thomas Jefferson wrote: "I set out on this ground which I suppose to be self evident, '*that the earth belongs in usufruct to the living*;' that the dead have neither powers nor rights over it."[168] The principle Jefferson believed was so obvious lies at the core of a Nature's Trust approach: that present generations do not have open-ended entitlement to deplete the assets in the natural trust to the detriment of future generations.

Jefferson reasoned that, because all human lives come to a natural end at some point, all property owners may in some sense be viewed as mere life tenants of the property they own.[169] Many societies have thus regarded property ownership as a usufructary right—giving families the ability to possess the land and make use of it, but always with the duty to maintain it in good condition. Indeed, this was the customary law of this continent as exercised by native nations.[170] In essence,

166 Just v. Marinette County, 201 N.W.2d 761, 768 (Wis. 1972) ("An owner of land has no absolute and unlimited right to change the essential natural character of his land so as to use it for a purpose for which it was unsuited in its natural state and which injures the rights of others.").

167 Professor John Davidson explores these concepts. John Davidson, Constitutional Law Found., The Stewardship Doctrine: Intergenerational Justice in the United States Constitution, http://www.conlaw.org/Intergenerational-II-2-3.htm (last visited Jan. 25, 2009).

168 Letter from Thomas Jefferson to James Madison (Sept. 6, 1789), *in* SOCIAL AND POLITICAL PHILOSOPHY: READINGS FROM PLATO TO GANDHI 261 (John Somerville & Ronald E. Santoni eds., 1963).

169 *See id.* at 262 (explaining that "no man can by *natural right* oblige the lands he occupied, or the persons who succeed him in that occupation, to the payment of debts contracted by him").

170 *See generally* Rebecca Tsosie, *Tribal Environmental Policy in an Era of Self-Determination: The Role of Ethics, Economics and Traditional Ecological Knowledge*, 21 VT. L. REV. 225 (1996)

ownership incorporated a duty against waste.[171] Such a duty ranks prominently in landlord tenant law, and is written into residential and commercial leases as a standard matter.[172]

This duty against waste could be a fulcrum for reconciling private ownership prerogatives with society's need to protect the natural infrastructure essential to survival.[173] In most cases of individual ownership, the duty is met simply by responsible habitation. The individual's main benefit from ownership is having a secure place in which to live, a physical realm in which privacy can flourish, a natural space to enjoy, and an asset to convey to whomever the owner chooses. Because this individual benefit is maximized through quiet enjoyment of property and not through economic exploitation, the duty against waste is not intrusive or incompatible with ownership prerogatives—it does not impair the beneficial use of what is truly *private property*.

Investment property has completely different attributes. This type of property, owned by corporations, developers, and speculators, is held for financial profit. Investment property is held as securities are held; the owner's interest in such land is primarily reflected on a ledger sheet. Profit motivations form the overriding driver in management of these lands. Quiet enjoyment, the expectation of privacy, and emotional attachment are simply not attributes of such ownership.[174] The antiwaste duty is likely to have its greatest impact in this realm and on those

(discussing the intersection of indigenous property norms with environmental ethics and land management norms); Rebecca Tsosie, *Land, Culture, and Community: Reflections on Native Sovereignty and Property in America*, 34 IND. L. REV. 1291, 1307 (2001) (discussing different tribal conceptions of property); Robin Kimmerer, *The Rights of the Land*, ORION MAGAZINE, Nov.–Dec. 2008, http://www.orionmagazine.org/index.php/articles/article/3647 (last visited Jan. 25, 2009) (discussing native land stewardship in context of Onondaga culture).

171 For discussion of the waste prohibition, see Wood, *supra* note 71, at 86–87. The waste prohibition as applied to private property is not a new idea. In his famous 1911 address, *The New Nationalism*, Theodore Roosevelt declared:

> I recognize the right and duty of this generation to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us. I ask nothing of the nation except that it so behave as each farmer here behaves with reference to his own children. That farmer is a poor creature who skins the land and leaves it worthless to his children. The farmer is a good farmer who, having enabled the land to support himself and to provide for the education of his children, leaves it to them a little better than he found it himself. I believe the same thing of a nation.

Roosevelt, *supra* note 156.

172 49 AM. JUR. 2D *Landlord and Tenant* § 684 (2006).

173 Quite apart from the matter of waste, some properties are also burdened with a public trust easement to access the waterway and, in some states, to use its upland dry sand beach. *See* Matthews v. Bay Head Improvement Ass'n, 471 A.2d 355, 360–66 (N.J. 1984), *cert. denied*, 469 U.S. 821 (1984); Raleigh Ave. Beach Ass'n v. Atlantis Beach Club, Inc., 879 A.2d 112, 121–22 (N.J. 2005) (refraining from enforcing a public easement across all private property located along the shore, instead taking a case-by-case approach determined by four factors from *Matthews*: 1) the location of the dry sand area in relation to the foreshore, 2) the extent and availability of publicly-owned upland sand area, 3) the nature and extent of the public demand, and 4) the usage of the upland sand land by the owner); Stevens v. City of Cannon Beach, 854 P.2d 449, 453 (Or. 1993), *cert. denied*, 510 U.S. 1207 (1994).

174 Of course, an owner may hold property for private purposes and then decide to sell, at which point the future value of the property to the owner is primarily monetary, and the property becomes speculation property.

businesses that seek profit from exploiting natural resources, destroying natural capital, and leaving behind environmental costs to be borne by the public and future generations. As noted earlier, the time has come for such industries to yield to new green businesses that make profits on Nature's sustainable yield.[175]

While the law is slow to change, there is indication that a stewardship-in-title approach is gaining a foothold, at least through voluntary transactions. The conservation trust movement has gained impressive momentum over the past two decades in all parts of the country.[176] Conservation easements are now commonly used to protect private property from destruction by the landowner and her successors.[177] Held by a government agency, land trust, or Indian tribe,[178] the easement allows the owner to make reasonable use of the property but does not allow defined types of injury—or waste.[179] The easement (in most cases) is designed to last in perpetuity on the property. These are flexible tools that protect the private property owner's right to privacy, sustainable and gentle use of the land, and the right to alienate the land—the three most treasured aspects of individual land ownership.[180]

While conservation easements are the product of voluntary arrangements, the land ethic they engender is likely to spread far beyond parcel boundaries. The importance of that cannot be overstated. In this country, private property ownership is as much a cultural institution as a legal institution. In the last few decades, an extremist private property rights movement has severely undercut government's efforts at protecting the public's assets.[181] Arriving at a modern conception of individual ownership that both provides security to the individual and protects vital trust assets for future generations will reinforce other initiatives to secure Nature's Trust.

VI. INFUSING THE PUBLIC TRUST IN GOVERNMENT

The task at hand is monumental and urgent—yet at the same time, logical and promising. The epochal challenge is to transform government from an institution that invokes political discretion to destroy our nation's natural resources to a

175 *See* PAUL HAWKEN ET AL., NATURAL CAPITALISM: CREATING THE NEXT INDUSTRIAL REVOLUTION, at ix (1999) (noting a key element of natural capitalism is "the idea that the economy [is] shifting from an emphasis on human productivity to a radical increase in resource productivity").

176 *See, e.g.*, THE NATURE CONSERVANCY, CONSERVATION EASEMENTS: CONSERVING LAND, WATER AND A WAY OF LIFE (2003), *available at* http://www.nature.org/aboutus/howwework/conservationmethods/privatelands/conservationeasements/files/consrvtn_easemnt_sngle72.pdf.

177 *Id.*

178 For an analysis of tribally held conservation easements, see Mary Christina Wood & Zach Welker, *Tribes as Trustees Again (Part I): The Emerging Tribal Role in the Conservation Trust Movement*, 32 HARV. ENVTL. L. REV. 373 (2008); Mary Christina Wood & Matthew O'Brien, *Tribes as Trustees Again (Part II): Evaluating Four Models of Tribal Participation in the Conservation Trust Movement*, 27 STAN. ENVTL. L.J. 477 (2008).

179 *See, e.g.*, THE NATURE CONSERVANCY, *supra* note 176.

180 RESTATEMENT (THIRD) OF PROPERTY: SERVITUDES § 1.6 (2000) (discussing basic legal framework for conservation servitudes and cross-referencing to section 4.9, which describes the property owner's right to use of estate burdened by conservation servitude).

181 *See, e.g.*, Erin Morrow, *The Environmental Front: Cultural War in the West*, 25 J. LAND RESOURCES & ENVTL. L. 183, 214–17 (2005) (explanation of the Sagebrush Rebellion and County Supremacy Movement).

government that acts as a responsible trustee of such resources. The central mission of government must turn away from its current service to singular powerful corporate interests, and back to its founding duty to protect national assets for present and future generations of citizens. Reforming government towards this end will entail thousands of initiatives put forward by thousands of individuals. A broad trust vision can inspire such efforts and create synergy among them. It would be impossible to inventory even a fraction of the reform measures that could be indispensable to this transformation. The purpose of this section is to simply set forth some broad principles for approaching the task.

A. Guiding Principles

1. Working with the Balance of Power

The old adage advising against putting all the eggs in one basket is good advice for strategizing government reform. All three branches of government hold different baskets of authority in the operation of government as a whole. Due to the checks and balances inherent in the constitutional system, success in one branch alone may not be enduring. Natural resources law is riddled with instances of one branch trumping another through increasingly complicated procedural and legal theatrics.[182] In this realm, the balance of power has digressed into an interminable tug of war, creating uncertainty for all concerned. In order to protect against one branch undercutting another in its trust functions, transformative reform must occur across all branches of government.

Each branch poses very different challenges and opportunities. Some of the reforms, though seemingly superfluous, could be thought of as creating independent nets of trust protection. For example, though a trust doctrine may emerge as a robust part of natural resources case law, enforceable by courts, it will still be useful to urge statutes and regulations reflecting the doctrine.

2. Focused Attention, Emergency-Style

Idealism quickly turns practical as individuals focus attention on a goal. The starting point to transforming government is to establish task forces within each branch to begin mapping out potential measures. Without a group of individuals charged with bringing trust concepts to fruition, progress will be slow and ad hoc. If the trust concept is inspirational, it will catalyze an array of internal initiatives.

Task forces should keep focused on the full urgency of avoiding climate thresholds. Because the climate crisis has both an immediate required response (leveling emissions within two years) and a long-term response (reaching zero emissions over time), the task forces should focus first on those early initiatives that will give society a chance to avert climate tipping points. Commentators urge a

182 For an excellent analysis of this dynamic in the context of public lands law, see Michael C. Blumm, *The Bush Administration's Sweetheart Settlement Policy: A Trojan Horse Strategy for Advancing Commodity Production on Public Lands*, 34 ELR NEWS & ANALYSIS (Envtl. L. Rep.) 10,397, 10,404–09 (2004).

World War II-scale effort to institute measures.[183] A leading book, *Climate Code Red*, notes that the emergency style decision making necessary for our situation is fundamentally different than the standard bureaucratic response that may take years to formulate and implement.[184]

3. Economic Vision Within Natural Resources Law

Natural resources law is but one piece of the complex puzzle of an unsustainable society. True reform must also involve the business sector. Experts in other areas of law, such as corporate law and criminal law, should be recruited to the task of steering the business sector away from wanton waste of natural resources. Revoking some corporate charters,[185] holding corporate officers personally liable for environmental damages, and pursuing corporations under conspiracy theories for climate damage and cover-up[186] are just some of the measures that may bring more ethical, public-minded behavior to Corporate America.

But far beyond these punitive steps, the positive economic potential of a trust approach should be promoted in synergy with all governmental trust initiatives. The economic transformation to natural capitalism should dovetail with a governmental transformation to protect Nature's Trust. The economic side of a trust platform would promote new green jobs,[187] restore natural wealth to benefit sustainable, local economies, create a more robust green infrastructure, and secure a vital system of ecosystem services to meet community needs.

B. Specific Initiatives

1. The Executive

The executive branch (on both the federal and state level) holds the most immediate potential for reform. This is because every natural resources agency within the executive branch represents a distinct forum for introducing trust values to governance. There are thousands of such agencies in the country (including divisions and offices) spanning the local, state, and federal levels. Within each agency, trust initiatives can take the form of moratoria, rule-makings, permit denials, task force recommendations, reports, news releases, web postings, media quotes or any other number of steps, big or small, flowing from the constant work

183 *See* SPRATT & SUTTON, *supra* note 19, at 158 (asserting that emergency mobilization on the scale of World War II is needed, as opposed to traditional modern policy solutions involving compromise and trade-offs, to successfully address global warming).

184 *Id.* at pt. III.

185 *See* SPETH, *supra* note 87, at 178 (advocating the revocation of a corporate charter if the corporation grossly violates public interest, expulsion of unwanted corporations, roll back of limited liability, and elimination of corporate personhood among other recommendations).

186 *See, e.g.*, Complaint at 47, Native Village of Kivalina v. ExxonMobil Corp. (N.D. Cal. Feb. 26, 2008) (No. 4:08-CV-01138) (alleging that defendant misled the public about science of global warming and tried to convince public that global warming is not man-made).

187 This is a stated platform of many climate groups. *See, e.g.*, Van Jones, Green Jobs Now, About Green Jobs Now, http://www.greenjobsnow.com/about (last visited Jan. 25, 2009).

of a bureaucracy. All such work entails messaging that is crucial to changing the culture of governance.

Small measures should not be dismissed merely because they are small. If they are easily achieved and can be replicated across the institution, they will contribute to changing agency culture—which, in turn, can fuel transformative change. While the impact from any one agency action may be quite limited in the formal, legal sense, the area of political influence and the capacity to inspire other agencies may reach across the globe. Initiatives undertaken by task forces are readily exportable to other agencies throughout the country through mass internet distribution newsfeeds.[188] When the Kansas Department of Health and Environment Secretary denied a permit for a coal-fired plant in October 2007, his words sounded a path-breaking ethical stance that reverberated across the globe in world news coverage.[189]

While change in agencies often originates in the top echelons of management, a significant capacity for change might lie at the lower bureaucratic levels. Staffers at these levels, if motivated, can urge an agency in a different direction through use of media, public disclosure, and citizen involvement. Trust reform task forces can be formed on an ad hoc basis by employees themselves at any agency level for the purpose of bringing accountability to government. Indeed, perhaps the most notorious effort along this line has been the effort of EPA scientists and staffers to pursue agency integrity. For example, in 2006, 10,000 EPA scientists—over half of the agency's total workforce—acted through their union leaders to petition Congress to end censorship of agency scientists.[190] Nonprofit organizations such as Public Employees for Environmental Responsibility and the Union of Concerned Scientists provide valuable support for many such efforts within government.[191] Moreover, the cadre of retired agency officials provide enormous, and largely untapped, potential for external assistance. The retired or resigned employees have considerable knowledge of how things work in the agencies and are free from the threat of internal retaliation to speak their views.[192] Officials who have left their

188 Examples include Rachel's Democracy and Health News, http://www.rachel.org/ (last visited Nov. 24, 2008) and Climate Crisis Coalition, Earth Equity News, http://earthequitynews.blogspot.com/ (last visited Jan. 25, 2009).

189 *See* Steve Mufson, *Power Plant Rejected Over Carbon Output for First Time*, WASH. POST, Oct. 19, 2007, at A1; Scott Rothschild, *Coal Plants Denial Stuns State*, LJWORLD.COM, Oct. 19, 2007, http://www2.ljworld.com/news/2007/oct/19/coal_plants_denial_stuns_state/ (last visited Jan. 25, 2009) ("'I believe it would be irresponsible to ignore emerging information about the contribution of carbon dioxide and other greenhouse gases to climate change and the potential harm to our environment and health if we do nothing.'" (quoting Rod Bremby, Secretary Kansas Department of Health & Environment.)). For background on the decision, see Robert L. Glicksman, *Coal-Fired Power Plants, Greenhouse Gases, and State Statutory Substantial Endangerment Provisions: Climate Change Comes to Kansas*, 56 U. KAN. L. REV. 517 (2008).

190 *See* Press Release, Public Employees for Environmental Responsibility, EPA Scientists File Mass Petition for Action on Global Warming (Nov. 29, 2006), http://www.peer.org/news/news_id.php?row_id=789 (last visited Jan. 25, 2009).

191 *See* Public Employees for Environmental Responsibility, About Us-Home, http://www.peer.org/about/index.php (last visited Jan. 24, 2009); Union of Concerned Scientists, About Us, http://www.ucsusa.org/about/ (last visited Jan. 25, 2009).

192 Some former high-ranking officials from the George W. Bush Administration have provided valuable information to the public and have assisted in reform efforts after retiring or resigning. A former senior adviser on climate change at the EPA, who resigned his post because of disagreements

position as civil servants yet still care deeply about the future of America should be recruited to inspire a trust accountability within the agencies that formerly employed them.

While agencies vary considerably in their statutory function, available resources, and political personalities, the roadmap for reform may be remarkably similar among them. To reiterate, the overall goal is to shift the agency's workload away from the permitting of environmental damage to the protection and restoration of natural resources in accordance with their trust duty to the American people. While this task may seem daunting, the following steps represent a logical progression towards that end.

a. Changing Mindsets: From Bureaucrat to Trustee

As a first step, the task force should work on ways to recast the civil servant's role from a bureaucrat to a trustee. Probably few agency staffers think of themselves as trustees. When their conception of their job changes, and with it their understanding of the duty and trust their position holds, they may naturally carry out such duties as part of their job performance. Various mechanisms exist to change the agency culture. Many are informal, such as email exchanges and coffee room conversations, but more formal ones include iterating the trust obligation in internal employee directives, office procedures, job manuals, employee evaluation criteria, and employee disciplinary measures.

Along with changing the agency mindset from the inside, there must be a different sort of external messaging to citizens, most of whom view themselves as political constituents rather than trust beneficiaries. Reinvigorating the beneficiary class is a vital step towards making the trust construct function as part of American democracy. Referring to the agency's mission as a trust mission, and the resources it manages as "assets," and the citizens as "beneficiaries" with a property interest in those assets, is a crucial measure towards this end. Casting the agency's duty as protecting resources in order to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations," as Congress said in the opening provision of NEPA,[193] sends the broad signal that public assets may not be exhausted to serve private, singular interests.

with the Administration's position on climate change, issued a key letter to Congress in which he disclosed that Vice President Cheney's office forced major alterations of climate testimony submitted to Congress by the head of the Center for Disease Control (CDC). *See* Derek Kravitz, *Dick Cheney's Continuing Environmental Influence*, WASHINGTONPOST.COM, July 8, 2008, http://voices.washingtonpost.com/washingtonpostinvestigations/2008/07/anglers_environmental_control.html (last visited Jan. 25, 2009). Former EPA officials exposed climate cover-up in 2003 by disclosing that the White House had forced EPA to modify key sections of a public report on climate. *See* Andrew C. Revkin & Katharine Q. Seelye, *Report by the EPA Leaves Out Data on Climate Change*, N.Y. TIMES, June 19, 2003, http://www.nytimes.com/2003/06/19/politics/19CLIM.html?ex=1371441600&en=95b0a43f25f8e0c8&ei=5007 (last visited Jan. 25, 2009). The Union of Concerned Scientists has documented this and other abuses on the part of the White House with respect to climate information. *See* TIMOTHY DONAGHY ET AL., UNION OF CONCERNED SCIENTISTS, ATMOSPHERE OF PRESSURE: POLITICAL INTERFERENCE IN FEDERAL CLIMATE SCIENCE (2007), *available at* http://www.ucsusa.org/assets/documents/scientific_integrity/atmosphere-of-pressure.pdf.

[193] National Environmental Policy Act of 1969, 42 U.S.C. § 4331(b)(1) (2000).

The common characterization of industries and other private groups as agency "stakeholders" undermines trust principles by implying that the agencies should serve those interests, perhaps even at the expense of the broader public. Generally speaking, third parties that seek to deplete or pollute trust assets are not considered stakeholders by the trustee charged with defending that trust. While the public has many different legitimate interests, naturally including economic interests, the stakeholder status accorded private companies, developers, and the business community has likely gone too far in conveying political standing to singular entities that instead ought to be viewed with a fair amount of trepidation (and in some cases outright suspicion) by those public servants charged with protecting the people's assets.

Instead of providing procedural avenues for the stakeholders, agencies should embark on processes designed to encourage an exponentially greater level of citizen involvement in agency decisions. Citizens face many barriers to such involvement, including lack of time, inadequate notice, lack of expertise, and the undue complexity surrounding most agency decisions. Merely carrying out the notice and comment requirements of environmental law no longer works to ensure environmental democracy in the executive branch. Agencies should affirmatively seek out beneficiary involvement through innovative means designed to overcome the many practical hurdles citizens face.

Finally, agencies should emphasize, both externally and internally, the economic and infrastructure benefits that flow from protecting the nation's natural assets. The current, limited portrayal of jobs and tax revenue benefits from extractive industries must yield to a long-term and broader portrayal of the economic and social benefits that will continue to accrue over time as a result of protecting and rebuilding natural infrastructure. The transition from a fossil fuel based, diminishing economy to a renewable wind, solar, and geothermal sustainable economy is paradigmatic of a shift towards economic security and community stability. This shift can and should be voiced by all agencies with a role in the fossil fuel economy.

Components	**Political Model**	**Trust Model**
Agency staffers	Bureaucrats	Trustees
Citizens	Political constituents	Trust beneficiaries
Natural resources	Diffused, intangible parts of the environment	Quantifiable, valuable assets
Government decision making	Political discretion to permit environmental destruction	Fiduciary obligation to protect natural resources
Private extractive and polluting industries	Stakeholders	Trust usurpers

b. Redirecting Agency Resources to Restore Natural Assets

While agency staffers are inclined to wait for express legislation to make any transformative changes to permit systems, in actuality they often have vast existing authority to change the way they implement the statutes. The most dramatic and

obvious change can be accomplished through changes to regulations that implement the statutes, or through secretarial orders setting forth a new direction. But changes can also occur at the permitting level. On this level, the agency may protect public assets simply by denying pollution or extraction permits on a case-by-case basis and phasing out existing permits as they come up for renewal—although such action may demand a rule-making if it involves an across-the-board policy change.[194] As a first step, agency analysts must map out the legal authority for prohibiting environmental destruction. Three general approaches are evident.

First, many environmental statutes or regulations contain boilerplate provisions that allow the agency to deny a permit that is not in the "public interest" or that causes noxious, nuisance-like effects to the community. For example, in one case the United States Army Corps of Engineers denied a permit for a fish farm based on a public interest clause in the regulations.[195] Many pollution statutes have "endangerment" provisions that can be invoked to prevent future harm.[196] These provisions are often so broad that they provide an ample reservoir of authority to protect public assets.

Second, analysts should consider the trust duty of protection or the police power to prevent a public nuisance as a potential wellspring of authority to deny or revoke permits for destructive action. Both are seemingly implied limitations on the agencies' ability to allow environmental damage,[197] yet few agency officials have likely considered these limits. Whether or not a particular statutory scheme preempts such arguments is an issue that must be navigated on a case-by-case basis. The potential force of the public trust looms large in this capacity. The Supreme Court in *Illinois Central*, for example, upheld a revocation of a conveyance of land to a railroad company on trust grounds, and both the California and Idaho Supreme Courts have stated that the trust gives revocation authority for permits (or leases) that violate the public trust.[198]

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194 *See* Motor Vehicle Mfrs. Ass'n of the U.S., Inc. v. State Farm Mut. Auto. Ins. Co., 463 U.S. 29, 42 (1983) ("[A]n agency changing its course by rescinding a rule is obligated to supply a reasoned analysis for the change beyond that which may be required when an agency does not act in the first instance.").

195 *See* Nw. Sea Farms, Inc. v. U.S. Army Corps of Eng'rs, 931 F. Supp. 1515, 1520 (W.D. Wash. 1996) (finding that the Corps correctly considered treaty rights under its regulations concerning what constitutes a public interest).

196 *See* Glicksman, *supra* note 189, at 567–95 (reviewing and analyzing endangerment provisions of various laws and concluding that the endangerment provision in the Kansas Air Quality Act "stands on its own as an independent source of regulatory power" to support the denial of a permit to operate a coal-fired plant).

197 In the analogous area of federal Indian law, courts have emphasized that trust duties are separate from, and in addition to, statutory duties. *See* Mary Christina Wood, *Fulfilling the Executive's Trust Responsibility Toward the Native Nations on Environmental Issues: A Partial Critique of the Clinton Administration's Promises and Performance*, 25 ENVTL. L. 733, 742–44 (1995) (discussing the trust responsibility and its importance in federal Indian law).

198 *See Illinois Central*, 146 U.S. 387, 460 (1892) ("There can be no irrepealable contract in a conveyance of property by a grantor in disregard of a public trust, under which he was bound to hold and manage it."); Nat'l Audubon Soc'y v. Superior Court of Alpine County, 658 P.2d 709, 723 (Cal. 1983) (concluding the state, as administrator of the public trust, had the power to revoke previously granted rights that violated the public trust), *cert. denied sub nom.* L.A. Dep't of Water & Power v. Nat'l Audubon Soc'y, 464 U.S. 977 (1983); Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, Inc., 671 P.2d 1085, 1094 (Idaho 1983) (concluding a grant of a lease for a piece of state shoreline for private

Third, behind every set of regulatory or statutory standards is a highly technical realm, obscure from public view. When agency staffers consider a permit, they invoke a host of assumptions and criteria to determine whether the permit meets the regulatory or statutory standards, many of which are numerical. For example, in considering whether a new facility violates air toxic emissions standards, an agency must consider prevailing winds and pollutant dispersion models, among many other things.[199] A local agency applying a riparian buffer must often consider whether a stream is suitable for fish habitat.[200] These technical assumptions, which are often quite malleable, drive the visible regulatory outcome, which is notably deceptive in its appearance of objectivity. An agency may transform the way in which it deals with permits by reaching into this technical realm to apply different protocol and presumptions of a precautionary nature.[201] Current administrative practice rarely applies technical assumptions in a precautionary manner to support trust resources, but doing so is a necessary part of the fiduciary's responsibility to protect assets.

These and other approaches should be considered as part of a permit phase-out plan that explores legal authorities applicable to the particular agency. Such a plan must necessarily anticipate dilemmas in the phase-out process and provide a reasoned approach. It should also evaluate the potential of pursuing natural resource damages. Ultimately, the plan should provide for redirection of staff and resources from the permitting functions towards natural asset restoration projects.

c. Fiduciary Decision Making in Climate Crisis

It is imperative that natural resource agencies take into account the greenhouse gas-emitting effect of their decisions. Nearly every conceivable resource-destroying activity has some negative effect on carbon sinks and/or results in carbon emissions. Asking government to quantify the effect prior to taking action is a logical application of every agency's fiduciary obligation to protect the atmosphere and all natural assets that depend on climate stability. This obligation has a clear basis in statutory law. At the federal level, NEPA requires agencies to consider the environmental effects of their actions.[202] Courts have held that climate

docking facilities "remains subject to the public trust . . . [such that] the state is not precluded from determining in the future that [the] conveyance is no longer compatible with the public trust").

199 *See* 40 C.F.R. § 51.112(a)(1) (2008) (providing that the adequacy of a control strategy under an implementation plan is demonstrated in part by applicable air quality models set out in Appendix W of part 51); *id.* pt. 51 app. W, app. A (summarizing preferred refined air quality models for specific applications, including models that account for basic dispersion and models that account for the effect of winds on transport and dispersion of pollutants).

200 *See* U.S. ARMY CORPS OF ENG'RS, NORFOLK DISTRICT, VA. DEP'T OF ENVTL. QUALITY, UNIFIED STREAM METHODOLOGY 10 (2007), *available at* http://www.nao.usace.army.mil/technical%20services/Regulatory%20Branch/USM/USM_Final_Draft.pdf. For a discussion of how consumption rate assumptions affect water quality standards, see Wood, *supra* note 81.

201 *See* Andrew Jordan & Timothy O'Riordan, *The Precautionary Principle in Contemporary Environmental Policy and Politics*, *in* PROTECTING PUBLIC HEALTH AND THE ENVIRONMENT: IMPLEMENTING THE PRECAUTIONARY PRINCIPLE 23 (Carolyn Raffensperger & Joel Tickner eds., 1999).

202 *See generally* National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370e (2000).

effects fall within the realm of required NEPA analysis.[203] While NEPA applies only to federal agencies, several states have NEPA equivalent laws that would seemingly impose the same requirement.[204] Moreover, even in those states that lack such laws, general administrative decision-making statutes may demand an inquiry of such factors. Absent all of these, the basic duty to avoid arbitrary and capricious decision making arguably demands a climate inquiry in light of the fact that public welfare is threatened by further carbon emissions.[205]

On a broader scale, agencies and offices charged with macro policy-making functions, such as the Council on Environmental Quality (CEQ) on the federal level, the Governor's offices on the state level, and the mayor's offices on the city level, should undertake broad carbon accountings for their jurisdictions to ensure compliance with the carbon emissions reduction regime set forth by scientists.[206] Individual agencies should apply similar accounting analysis to force reductions in all activities subject to their jurisdiction.

d. The Duty of Loyalty, Taken Seriously

As noted earlier, "[t]he duty of loyalty is . . . not the duty to resist temptation but to eliminate temptation, as the former is assumed to be impossible."[207] Within each agency, a broad challenge exists to identify areas of "temptation" in which private interests may exert undue influence on matters of trust management. Ultimately, enforcing the duty for the public requires changing the fundamental

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203 *See* Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 508 F.3d 508, 550 (9th Cir. 2007) (explaining that "[t]he impact of greenhouse gas emissions on climate change is precisely the kind of cumulative impacts analysis that NEPA requires agencies to conduct"), *vacated and superseded to modify the remedy*, 538 F.3d 1172 (9th Cir. 2008); Friends of the Earth, Inc. v. Mosbacher, 488 F. Supp. 2d 889, 889–908 (N.D. Cal. 2007) (holding that agencies that invest in and provide financial support to international fossil fuel projects that emit greenhouse gases are subject to NEPA). For informal commentary on the impact of the former decision, see *Landmark Decision: 9th Cir. Requires Assessment of Climate Change Impacts Under NEPA*, ENVTL. L. & CLIMATE CHANGE CTR., Nov. 30, 2007, http://law.lexisnexis.com/practiceareas/Environmental-Law-Blog/Environment-Climate/Landmark-Decision-9th-Cir-Requires-Assessment-of-Climate-Change-Impacts-Under-NEPA (last visited Jan. 24, 2009), concluding:

> The decision means that project proponents, including both public and private developers and businesses, must evaluate greenhouse gas emissions for projects requiring federal approval or permits, such as new energy facilities and transmission lines, casinos, landfills, major land developments, telecommunication facilities, mines, road expansion and other transportation projects. While the Court's holding is limited to federal decisions subject to NEPA, it has the potential to affect private development projects and other state-level projects under state environmental review statutes like Washington's SEPA and California's CEQA.

Id.

204 *See, e.g.*, Clifford Rechtscaffen, *Advancing Environmental Justice Norms*, 37 U.C. DAVIS L. REV. 95, 120 (2003).

205 *See* Administrative Procedure Act, 5 U.S.C. § 706(2)(A) (courts shall set aside agency action that is arbitrary and capricious).

206 *See, e.g.*, UNITED NAT'L INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: SYNTHESIS REPORT 15 (2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf [hereinafter IPCC REPORT] (urging that barriers to implementing emission mitigation programs be dealt with in order to accomplish a substantial reduction of emissions in all sectors by 2030).

207 Boxx, *supra* note 34, at 280.

culture of agencies and reframing much of what is accepted as "politics as usual" into breaches of loyalty. The challenge is no less monumental than eliminating sexual harassment or racial discrimination from the public work place. It can be tackled through a variety of measures including employee education, performance standards, whistle-blowing protections, punitive measures for fiduciary violation, public disclosure rules, and strong leadership.

2. Congress

Congress is a particularly problematic branch of government, both because it is so heavily influenced by industry lobbyists, and also because the institution is easily deadlocked over environmental policy.[208] Nevertheless, efforts towards transformative change can be directed towards both the politics of Congress and towards specific legislative reform. A full discussion of legislative reform is well beyond the scope of this Article; only a few broad observations will be made here.

The Nature's Trust approach would call for a broad reconceptualization of Congress's role. Rather than viewing it as a political body with unfettered discretion to sit idle while natural catastrophe unfolds, the trust approach would hold Congress accountable, at least in the court of public opinion, as the ultimate trustee with a duty to act. This reframing can be voiced by prominent statesmen and stateswomen outside of Congress. Tools such as media and the internet can bring the trust approach into the national consciousness. Broad efforts to reform campaign financing, and other efforts to strengthen democracy, will fortify this approach.

In terms of specific legislative initiatives, clearly an important short-term climate measure is a national moratorium against further coal-fired power plants and a phase-out of existing ones.[209] On a more general level, Congress should amend the National Environmental Policy Act to incorporate a substantive trust protection standard similar to that found in some state NEPA-equivalent laws,[210] and provide mechanisms for citizen enforcement. Such legislation should provide for natural resource accountings, particularly carbon accountings. Congress should amend federal environmental statutes to provide an organized phase-out of pollution permits, reserving permit authority for emergency situations, circumstances of compelling public need, and restoration projects. The legislation should impose duty-of-loyalty procedures and should provide for personal liability on the part of government officials for breaching the duty or for gross mismanagement of the trust. Congress should charge the Government Accountability Office or other auditing agencies with the task of determining if trust functions have been met.

Congress should also pass a comprehensive suite of laws designed to change the economy of pollution to stimulate natural capitalism. Congress should require

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[208] *See* WILLIAM ANDREEN ET AL., COOPERATIVE FEDERALISM AND CLIMATE CHANGE: WHY FEDERAL, STATE, AND LOCAL GOVERNMENTS MUST CONTINUE TO PARTNER 1, 4 (2008), *available at* http://www.progressivereform.org/articles/Cooperative_Federalism_and_Climate_Change.pdf (describing stalemate in Congress over climate change legislation).

[209] *See supra* note 95 and accompanying text.

[210] *See generally* Nicholas A. Robinson, *SEQRA's Siblings: Precedents from Little NEPA's in the Sister States*, 46 ALB. L. REV. 1155, 1156–57 (1982).

agency trustees to recover natural resource damages for injury to public resources. While some NRD provisions exist,[211] they are not comprehensive and have not been used widely by government trustees. Moreover, many contain permit shields,[212] which should be eliminated in order to fairly gain compensation for damaging the people's trust assets. Natural resource damage moneys should be directed into restoration programs and renewable energy infrastructure. Congress should redirect all subsidies in the energy sector towards renewable (non-nuclear) energy[213] and create a green jobs program to both stimulate the economy and carry out environmental restoration.

In the face of climate crisis, Congress should pass an atmospheric trust statute that sets forth a mandatory greenhouse gas emissions reduction framework[214] to carry out scientific prescriptions. The framework should establish "floor preemption," which "create[s] a minimum level of federal protection and then allow[s] states to exceed this minimum standard by adopting more protective state laws."[215] The reduction standards should be backed by four implementation/enforcement tools: 1) a carbon accounting at every jurisdictional level, 2) monetary penalties for nonattainment, 3) statutory "hammer" measures,[216] and 4) citizen enforcement. Along with the atmospheric trust statute, Congress should pass a suite of climate measures across sectors to implement the steps called for in the United Nations Intergovernmental Panel on Climate Change Synthesis Report.[217]

3. The Judicial Branch

The Nature's Trust approach requires a reinvigorated judiciary to serve as an ultimate guardian-enforcer of the public trust. To this end, courts should have both the inclination and tools to safeguard vital public trust assets as a last resort where the other branches have failed. Judges should be receptive to trust cases, understand the judiciary's role in the constitutional balance of power over ecological assets, be willing to enforce trust principles against the political branches, and be equipped to implement complex remedies where warranted.

The judicial system holds considerable opportunity for visionary change due to the fact that there are so many judges, each individually minded, dispersed among hundreds of federal, state, and municipal courts throughout the country.

211 *See supra* notes 26–29 and accompanying text.

212 *See, e.g.*, Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9601(10) (2000).

213 For a proposed national carbon-free, nuclear-free plan, see ARJUN MAKHIJANI, CARBON-FREE AND NUCLEAR-FREE: A ROADMAP FOR U.S. ENERGY POLICY, at ch. 6 (2007).

214 Congress has several choices of institutional design in fashioning a statute. Professor Glicksman makes a compelling argument for the "coercive" regulatory model which "delegates minimal discretion [to the agency] over *whether to regulate*, but affords substantial discretion to the agency to choose regulatory content [i.e. how to regulate]." Robert L. Glicksman, *Balancing Mandate and Discretion in the Institutional Design of Federal Climate Change Policy*, 102 NW. U. L. REV. 196, 199 (2008) (emphasis added).

215 ANDREEN ET AL., *supra* note 208, at 5.

216 Glicksman, *supra* note 214, at 215 (explaining that the "hammer" method was developed by Congress to ensure compliance with environmental statutes; if particular standards are not met by the statutory deadline, "hammer provisions" take effect to ban undesirable activity).

217 *See generally* IPCC REPORT, *supra* note 206.

Public trust cases can be filed at either the state or federal level, and court decisions (even unpublished ones) can be made available throughout the country and indeed the world through web postings and other avenues. Trust decisions in one jurisdiction may spur new thought in another jurisdiction even though the latter is not bound by the former's precedent.

There are two approaches to promoting transformative change within the judicial branch: one is external, and the other is internal. The external approach relies largely on cases brought before the courts. Through their briefs, attorneys influence how judges view the law. Too often lawyers simply characterize the public trust doctrine as protective of water resources and wildlife—an anachronistic approach that does little to address the state of the atmosphere and its need of trust protection. Legal briefs should move beyond a mere reiteration of the "first-generation" resource-specific trust cases to put forward a more fundamental vision of the role of the public trust doctrine in protecting all natural assets needed by society. With more attention to the broader principles underlying the trust, lawyers can encourage judges to find their appropriate role in the looming environmental crisis. Moreover, in every case, lawyers should clearly set forth a road map for establishing a fiduciary obligation and constructing a meaningful judicial remedy. Without a clear remedy capable of implementation by a court, judges will be reluctant to vindicate public property rights in trust assets.

The other approach is internal. Within the judicial branch, there is enormous opportunity to educate judges. Judges regularly attend judicial training seminars to explore topics such as handling complex cases, dealing with science and the law, evaluating economic theories, and the like.[218] The unique role of the public trust doctrine in safeguarding civilization should be the focus of such training. In addition, judicial manuals should set forth practical measures on how to manage a trust case and enforce a fiduciary obligation. Tools such as special masters, consent decrees, and settlement agreements should be explored by judicial task forces to enable courts to handle complex natural resource cases within a common law trust framework. Judicial websites should be used to make court-ordered natural resource accountings and public trust decisions available to citizens.

4. The International Realm

On the international level, the trust obligation should form the overriding legal principle guiding diplomacy over shared assets such as the oceans and atmosphere. Compelling scholarship has already formulated the concept of a "planetary trust."[219] An international body housed within the United Nations should be

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218 *See, e.g.*, FED. JUDICIAL CTR., ANNUAL REPORT 2007, at 4–5 (2007), *available at* http://bulk.resource.org/courts.gov/fjc/annrep07.pdf (highlighting judicial education programs which in 2007 reached more than 2000 judges).

219 *See, e.g.*, EDITH BROWN WEISS, IN FAIRNESS TO FUTURE GENERATIONS 2 (1989) (arguing for the existence of certain basic planetary rights and obligations among and between generations); Gail Osherenko, *New Discourses on Ocean Governance: Understanding Property Rights and the Public Trust*, 21 J. ENVTL. L. & LITIG. 317, 327–34 (2006) (applying the trust to the analogous global oceans resource); Sand, *supra* note 21, at 51–54 (discussing the concept of global trusteeship for common resources that are vital to humanity); Edith Brown Weiss, *The Planetary Trust: Conservation and*

charged with defining the scientific standards that form the basis for each nation's fiduciary obligation towards shared assets. This is particularly urgent for the atmosphere. The same body should undertake, where necessary, broad accountings for such assets. An international tribunal should be charged with calculating and distributing natural resource damages collected by individual nations for injury to shared assets to ensure fair allocation of recovered sums in accordance with principles of cotenancy liability.

Trust concepts should be introduced to citizens of other countries through web resources and informational articles. The International Union for Conservation of Nature (IUCN) Academy of Environmental Law could convene a working group to explore trust concepts and their applicability within different legal systems. The same group can introduce such concepts into the legal curriculum of various law schools. The Environmental Law Alliance Worldwide, a nonprofit organization devoted to public interest environmental law development across the globe,[220] should continue to expand its dissemination of trust concepts to public interest environmental lawyers in countries throughout the world.

5. The Domestic Legal Academy

Law schools should teach courses on public trust law. A treatise covering the field is already in progress. Law school centers should initiate projects such as compiling trust initiatives (including court filings, judicial decisions, administrative rules, legislative statutes, municipal ordinances, and public testimony) and making documents available for downloading by citizens and government officers. Legal scholarship should focus on issues that will move the trust doctrine into a second generation manifestation beyond the theoretical realm.[221]

VII. CONCLUSION

American law, culture, and society have changed radically over the course of 200 years. The country is now on the threshold of the most dramatic change in history. As James Speth points out, society faces an epochal choice of whether to re-create itself in a sustainable manner or to continue its present course—a course that consigns the children of today to a world that "won't be fit to live in" by about the time they reach middle age.[222] Avoiding this outcome requires immediate, drastic action to reduce carbon pollution in hopes of averting the climate tipping

Intergenerational Equity, 11 ECOLOGY L.Q. 495, 498 (1984) (discussing humanity's fiduciary obligation to "all other species").

220 *See* Environmental Law Alliance Worldwide, About ELAW, http://www.elaw.org/node/3626 (last visited Jan. 25, 2009) (describing purpose of organization to build and support "a worldwide corps of skilled, committed advocates working to protect ecosystems and communities for generations to come").

221 Two law schools, University of Oregon School of Law and Lewis & Clark Law school, already offer a seminar on public trust law in their environmental curriculum. Professor Mary Christina Wood and Professor Michael Blumm are coauthoring a forthcoming treatise on public trust law.

222 *See* Wood, *supra* note 71, at 50 n.37 and accompanying text (discussing the effects of the imminent climate crisis).

point. It also requires protecting all remaining natural resources as security for a world that is already consigned to an additional 2 degrees Celsius heating.[223]

Despite the good intentions and the hard work of many citizens, lawyers, and government officials, modern environmental law has proved a colossal failure. Government is driving our world towards runaway greenhouse gas emissions and resource depletion, notwithstanding the most extensive and complex set of legal mandates the world has ever known. Agencies have taken the discretion in the statutes and created a regulatory monster, so complex and bureaucratic that it lacks any meaning for the average citizen. At best, the environmental law of today is used to hospice a dying planet. At a time when society must form a "bridge" to a sustainable world,[224] leading thinkers should be setting their sights on a transformational environmental principle.

The "Nature's Trust" approach introduced in this two-part work is intended to infuse ecological responsibility in governmental institutions within the structure and tradition of American constitutional democracy. By focusing on the public's need for survival resources and embracing the ecological reality that all components of the natural system are interdependent and therefore vital, the Nature's Trust principle offers a holistic approach to a legal system badly afflicted by complexity, fragmentation, and artificial distinctions. At its core, the trust approach rejects political solicitude towards private, singular interests and instead demands a fiduciary duty of loyalty to the public to protect assets for present citizens and future generations. Trust principles reframe what is currently government's *discretion* to destroy our atmosphere and other resources into an *obligation* to defend those resources—as commonly held assets in the Endowment we must hand down to our children for their survival.

223 *Id.* at 53 n.56 and accompanying text.

224 SPETH, *supra* note 87, at 236–37.